

THE MONIST

ORMAZD, OR THE ANCIENT PERSIAN IDEA OF GOD.

Ahura Mazda, thou Spirit Most Holy,
Creator of the Material world,
Thou Righteous One !

THESE are the words in which Zoroaster, the Prophet of ancient Iran, was wont to pray to the Holy One of Persia, to the Lord God of Iran, as we read in the Avesta or ancient Sacred Books of the Parsis. It was this figure of Ahura Mazda, or Ormazd, that Zoroaster proclaimed to stand at the head of the host of heaven as supreme ruler over the great kingdom of good, of truth, of light, and as regent and sovereign above all peers. "A great god is Aura-mazda, the greatest of the gods" says King Darius also in the grand royal inscriptions on the rock at Behistan when he invokes blessings upon his people and gives thanks to Ormazd for all his mercies and kindnesses, in tones that resemble the fervor and dignity of the Psalmist chanting "the Lord is a great God, and a great king above all gods." Everywhere in the Zoroastrian scriptures the supremacy of Ahura Mazda is recognised and acknowledged ; everywhere in his names, titles, attributes and functions, there is evidence of the exalted idea which the Persians held of the majesty of this supermundane figure, of the purity of this transcendental divine being whom the Zoroastrian religion set up to be worshipped as god. So characteristic is this supreme

deity, that the religion itself is often called "Mazdaism" from Mazda's own name.¹

The very lines of address to the deity, given above in the formulaic stanza that serves as text to open the discussion, show a certain ideality of thought that characterised the ancient Persian temperament. The Greeks, with their anthropomorphic notion of the pantheon of heaven, seem to have been struck by the spirituality and the immaterial nature of the Iranian conception of the god-head. Herodotus tells us that the Persians charge with folly those who erect statues or temples of the gods, "because they do not think the gods have human forms, as the Greeks do"; while ac-



Fig. 1. AHURA MAZDA.

(Conventional reproduction of the figure on the great rock inscription of Darius at Behistan.)

ording to Deinon, "they regard fire and water as the only images of the gods."² Plutarch best expresses the Zoroastrian idea of divinity when he says, in describing the nature of Ormazd, "among objects of sense he most of all resembles the light." Porphyrius adds of Ormazd, "his body is most nearly to be likened unto Light, his soul unto Truth."³ From the Pahlavi books, or patristic literature of Sassanian times, which stand in the same relation to the

¹ For a brief and comprehensive sketch of the faith I would refer to a short article by the Editor, Dr. Carus, in *The Open Court*, March, 1897.

² Herod. i. 131 (and after him Strabo, *Geogr. Lib.* xv), Deinon, *Fragm.* (cited in Clemens Alex.).

³ Plutarch, *de Is. et Osir.* c. 46; Porphyrius, *Vita Pythagorae*, 41.



Fig. 2. BAS-RELIEF OF PERSEPOLIS.

(After Flandin et Coste, *Perse Ancienne*, pl. 156. Reproduced from Lenormant, V, p. 485.)

Avesta as the Church Fathers stand to the Bible, we learn that it is in the majesty of the sacred flame that Aūharmazd reveals himself to the transported seers of Iran, just as Jehovah manifested himself in a great light to the prophets of old.¹ It must not be supposed, however, that the figure of the great Iranian god is absolutely free from all anthropomorphic traits. Such suggestions of anthropomorphism as are noticeable, and they are slight, will be discussed hereafter. But first we must look at the general attributes and functions of the Persian divinity.

Ahura Mazda. The name Ahura Mazda which always stands first in the formulaic address by the Prophet when he begins to commune with his god, is in itself an ideal title. It means the "Lord-Wisdom" (*Ahura-Mazda*). This "Sovereign Knowledge" universally appears as the chief characteristic of the Iranian deity. In a chapter of the Avestan ritual devoted to Ormazd and anticipating the thousand names of Allah, Ahura Mazda himself says: "my sixth name is Intelligence, my seventh name is the Intelligent. My eighth name is Knowledge, my ninth name is Endowed with Knowledge. I am the Sage by name; and I am by name the Sagest."² Everywhere in the Avesta, moreover, Ahura Mazda is represented as creating with "Intelligence"; whereas his antagonist Anra Mainyu creates with Ignorance. Ormazd is prescient, rich in wisdom, and omniscient; his opponent Ahriman is ignorant, lacking in knowledge, and endowed only with after-thought. The contrast between Ormazd and Ahriman, however, must remain to be discussed more fully upon some other occasion.

Thou Spirit Most Holy. These words of the address, "Spirit Most Holy," or "Spirit Most Beneficent," exhibit one of the most

¹ Artā-Virāf, 101. 10-12; Zartusht Nāmah, p. 492, l. 35 (in Wilson's *Parsi Religion*).

² Avestan Yasht I. 7, 15. The Avesta is easily accessible in translation by Darmesteter and Mills in the *Sacred Books of the East*, ed. F. Max Müller, vols. iv, xxiii, xxxi; or in the later French version by Darmesteter, *Le Zend Avesta* (Musée Guimet Series) 3. vols., Paris, 1892-1893; or again in German by F. Spiegel, and in French by C. de Harlez. The Pahlavi texts may be had in the translations by E. W. West, *Sacred Books of the East*, Vols. v, xviii, xxiv, xxxvii, xlvii.

characteristic attributes of Ahura Mazda as *Spenta Mainyu* or *Mainyu Spēnisha*, the good spirit, opposed to the evil spirit *Anra Mainyu*.¹ And now we must philosophise for a moment, as we have before us a tenet which is as metaphysical as the Trinitarian doctrine in Christian theology.

The attribute *Spenta Mainyu*, as part of Ahura Mazda's personality, is in some instances, especially in the Gāthās or Zoroastrian Psalms, conceived of as an emanation from Ahura himself.² In such cases it comes to be regarded almost as a personal being that plays the rôle of intermediary, especially in creative activity, somewhat like Vohu Manah, or the archangel of Good Thought. This relation between Ahura Mazda and *Spenta Mainyu* in the Psalms of Zoroaster much resembles that of the Holy Ghost to the Father in the New Testament, because *Spenta Mainyu*, or the "Holy Spirit," is of the same substance with Ahura Mazda³; and, as we might naturally suppose, so subtle a distinction naturally gave rise to different views of interpretation in Zoroastrianism itself and to the varying dogmas of sects.

It was this sharp antithesis of *Spenta Mainyu* to *Anra Mainyu* which is present in the Zoroastrian Gāthās as the Parsis emphasise, that led still farther in later times to the separation of attribute and essence from the person. The sacred Pahlavi literature of the Sassanian period recognises the personification of the essence and spirit (the Pahlavi *Sp'nāk Mainōg*) conceived of as separate and apart from the Divine Being.⁴ In fact there is just as much

¹ Some of the most specific passages in the Avesta are: Ys. 30. 5; Ys. 44. 7; Ys. 45. 2; Ys. 43. 5; Ys. 57. 17; Yt. 13. 13; Yt. 15. 3, 43, 44; Yt. 19. 44, 46; Vd. 1. 1 seq.; Ys. 1. 1; Pahlavi Būdahishn 1. 3-27. See also J. Darmesteter, *Ormazd et Ahriman*, p. 89-94, Paris, 1877.

² E. g.; Ys. 43. 2, 6; 45. 6; 47. 1, 5; 51. 7. See also Firoz Jamaspji's note in Casartelli, *Mazdayasnian Religion under the Sassanids*, Bombay, 1889, p. 17.

³ The late lamented Darmesteter's views on the influence of the Logos doctrine upon the Avesta cannot be said to have met with any general favor among specialists. On somewhat similar lines, but earlier, Casartelli, compare *Mazdayasnian Religion*, tr. by Firoz Jamaspji, Bombay, 1889, p. 42 seq.

⁴ Consult Casartelli, *Mazdayasnian Religion*, trans. by Firoz Jamaspji, pp. 17, 19, 57, with footnotes. See further West in *S. B. E.*, V., 112 note, 128 note 8.

evidence in Zoroastrianism of divergence in the lines of development on this point, with doctrinal differences and dogmatic variations, as there is a deviation in Christianity between Unitarianism and Trinitarianism. The modern Parsis have gone so far as to regard Ahura Mazda as comprising within himself both Spenta Mainyu and Anra Mainyu, as two spirits of opposite character, if not opposing nature, two principles, the good and the evil, two poles of the magnet, positive and negative.¹ This view is evidently recognised, together with other views, by Shahrastānī (A. D. 1086-1153), in his account of the sects and philosophical schools, when he states that the sect of the Gayomarthians maintain that the evil spirit Ahriman sprang from the good principle.² Haug most clearly presented the Parsi attitude when he sought to draw a distinction between Zoroaster's theology as monotheism and his speculative philosophy as dualism.³ As a whole, however, the modern Parsi view, although it must command the most serious attention and investigation, seems to the present writer rather to be a later development, along more sharply defined lines, of what is only latent in the early times of the Gāthās. In other words, it appears to be a conception which has its origin perhaps in the growth of monotheistic tendencies and it appears to be due rather to the influences of certain older sects, than it seems to represent the original teaching of Zoroaster himself. Still, such a statement, although it represents a common view of the question, must be taken with reserve, for the Parsis strenuously maintain that foreigners misunderstand the standpoint of the Gāthās in this matter. Nevertheless, the direct opposition between Ormazd (Ὀρομάρδης) and Ahriman (Ἀρεμάνιος) as the good and the evil genius (δαίμων), or as two antagonistic principles

¹ See the views of the Parsi authorities Firoz Jamaspji in Casartelli, *Mazdayasnian Religion*, p. 19 note; J. J. Modi, "The Religious System of the Parsees" in *The World's Parliament of Religions*, II., 900-902; N. F. Bilimoria, "Mazdaism" in *The Open Court*, XI., 377, June, 1897.

² See Haarbrücker's translation, I., 275 seq.; and compare Spiegel, *Erān. Alterthumskunde*, II., 187; Casartelli, *op. cit.*, 32 seq.; Gottheil, *References to Zoroaster*, p. 46 (Classical Studies in Honour of Henry Drisler, New York, 1894).

³ Haug, *Essays on the Parsis*, 3d ed., pp. 300-304.

(ἀρχαί), is as old as Aristotle, if we may accept the authority of Diogenes Laertius.¹

The attribute *Spenta Mainyu* has been translated above by "Holy Spirit." The English word *holy* (A. S. *hāl*) with all its comprehensive idea of absolute excellence, fulness, completion, finish, perfection, is not far remote in its original sense (cf. *whole*) from the Avestan *spenta*. The latter has as many cognates and derivatives in the Avesta as the English *holy* has in the Bible (cf. also Germ. *heil* and its kin), and like "holy" the word "spenta" is a

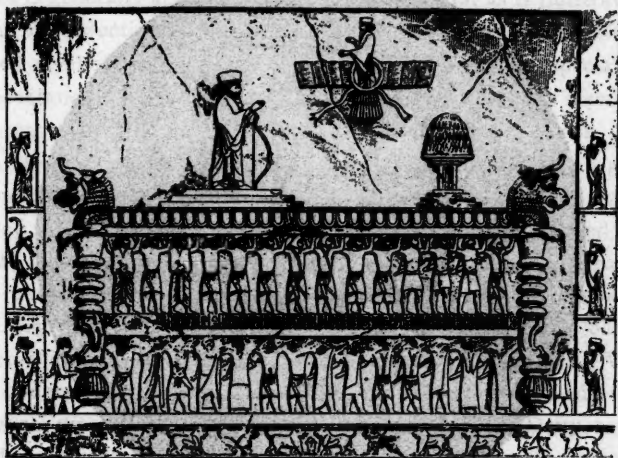


Fig. 3. SCULPTURES ON THE TOMB OF DARIUS.
(Flandin et Coste, *Perse Ancienne*, at Persepolis, pl. 164. Lenormant, V., p. 23.)

great cardinal term in Zoroastrian theology. The true and fundamental idea of the Iranian word and its cognates is that of "growth increase, furtherance, progress, power, beneficence, perfection," which are synonyms with the Zoroastrian conception of holiness.²

As for *mainyu*, "spirit," it has been sufficiently shown above how ideal in its spirituality the Iranian conception of the godhead

¹ Diogenes Laertius, *de Vit. Philos.*, Proem. 8.

² The best discussion of the term is to be found in Darmesteter, *Ormazd et Ahriman*, p. 39, 89-92. For the development of meaning we may compare the etymological force of "august" (Lat., *augeo*).

really is. Attention has already been called to what the Greeks remarked on this subject. Herodotus emphasises that the Persians have no images of the gods because they do not believe, as the Greeks do, that the gods have "human forms." And when the Avesta speaks of Ahura Mazda as having a "body" (*kehrp*), we must remember that it is rather in the shape of the holy flame that he manifests his presence to mankind, or in the form of light, because "he wears the heaven as a robe."¹

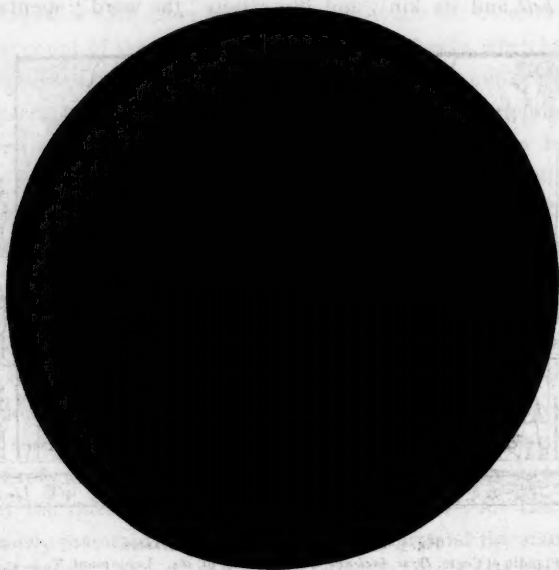


Fig. 4. SASSANIAN BAS-RELIEF. ORMAZD PRESENTS THE CROWN TO ARDASHIR.
(From Curzon, *Persia*, II. p. 125.)

Nor is the sculptured rock at Behistan or the later Sassanian bas-reliefs a violation of the conception. King Darius in the great inscription evidently caused a representation of Aūra-mazda to be carved above his own portrait. This figure floats in a winged circle over the head of the king and presents to him a ring or symbol of sovereignty. See Fig. 3.

It has been supposed that this conventional figure represents

¹ Cf. Avesta, Ys. I. 1; Ys. 30. 5; Yt. 13. 3; and especially Ys. 36. 6.

rather the *fravashi* or idealised spirit of the king; but there can hardly remain any doubt that it represents Ormazd when we compare it with a passage in the Avesta (Vend. 2) and with similar representations of the godhead in Sassanian bas-reliefs, where a like figure is pictured at Naksh-i-Rüstam as presenting to the ruling monarch the emblem of sovereignty, and the name Ormazd is actually inscribed on the stone.¹ See Figs. 4, 8.

This conventional representation of Ormazd is not Iranian in origin nor by nature; it is borrowed from Assyrian or Babylonian art, as is generally acknowledged by scholars, and as is illustrated by the reproductions from an Assyrian cylinder and cameo, with a winged symbol of the divinity, on the next page. So special a representation of the deity on the Achæmenian trilingual inscriptions may have been designed by Darius for particular reasons. It is manifest throughout that he wishes to emphasise his divine right to the throne, and this plastic delineation of the divinity himself offering the sovereignty to the king, might well be calculated to appeal to the non-Persian conquered nations who were perhaps more anthropomorphic in their ideas. The later Sassanian bas-relief representation would simply be borrowed from the older Achæmenian sculptures or with the same intent. (See Fig. 8.) We may understand the situation better if we recall that mediæval Christian art did not shrink from representing the Deity as a bearded patriarch in flowing robes.

With regard, furthermore, to the theme under discussion, of Ahura Mazda as a spirit (*mainyu*), we may add that the purity and ideality of the conception is in no degree interfered with by the allusions to him in the Zoroastrian Psalms as "the father of Vohu Manah (archangel of Good Thought)," or again as "the father of Asha (Righteousness)."² He is always represented as the creator of

¹ See Edward Thomas, "Sassanian Inscriptions" in *Journal of the Royal Asiatic Society*, New Series, Vol. III., p. 269 and p. 267 note 3, London, 1868. K. D. Kiash, *Ancient Persian Sculptures*, p. 121; G. Rawlinson, *The Seventh Oriental Monarchy*, p. 606; Curzon, *Persia*, II., 125 (from which latter the above cut is reproduced).

² Ys. 31. 8; Ys. 45. 4; Ys. 44. 3; Ys. 47. 3.

the Archangels, or *Amesha Spentas* (Immortal Holy Ones). In the Yashts, or Avestan hymns of praise, he has *Ārmaiti* (Holy Harmony, goddess of the Earth) as daughter. The angel *Ashi Vanuhi* (Good Piety, and its resulting blessings) is their child; and this divine creature is a sister of the divinities *Sraosha*, *Rashnu*, and *Mithra* (Obedience, Justice, Truth), who rule as judges of the fate of the soul after death. The Fire (*Ātar*) is the son of *Ahura Mazda*; the



Fig. 5. ASSYRIAN CYLINDER.
(British Museum. Lenormant, V., p. 234.)

waters are his spouses; and the Archangels or *Amesha Spentas*, as already noted, are his creation and his dependents.¹ Whatever may be the origin of these several abstractions, of these metaphorical and allegorical expressions, we are not to interpret them any differently from the manner in which we speak in Christianity of the



Fig. 6. AN ASSYRIAN
CAMEO.²

"fatherhood of God," the "fellowship of the Holy Spirit," or the "bride of Christ."

Ahura Mazda as Creator.—With the phrase "Creator of the material world," in the formula of address above, we come to one of the most characteristic of all *Ahura Mazda's* attributes,—the

¹ Yt. 17. 16; Ys. O. 2, etc.; Ys. 38. 1; Yt. 13. 83.

² In the Louvre in the Cabinet des Médailles. See Lenormant, V., p. 248. Compare the very similar Artaxerxes seal of Dieulafoy in *Harper's Monthly Magazine*, LXXV. p. 3.

divine attribute of creative power. There is a noble "Psalm" (Gāthā) in which Zoroaster inquires into the nature and origin of creation, the maker of the sun, moon, and stars; of the earth and the sky; of the trees, winds, and mists; of the light and of darkness, morning and evening, wakefulness and slumber; and of the governing power that rules and directs the world; and, finally, in the confidence of his belief he rises to a grand climax as he bursts out into an exclamation calling upon "Thee, O, Mazda, the Creator of all through thy Holy Spirit."¹ In the Avestan prose "Seven Chapters," which can be but little later than the metrical Gāthās, Ahura Mazda is the creator of "all good things," including especially the animals, plants, the light and the earth.² In the opening



Fig. 7. ASSYRIAN CYLINDER.
(Layard, *Culte de Mitra*, pl. xxx., No. 7. Lenormant, V., p. 248.)

paragraphs, moreover, of the Yasna, or celebration of worship, Ahura Mazda is invoked as "the Creator, radiant and glorious, most great and good, most fair, firm and wise, he who is most beautiful in form, who is supremest in Righteousness, sage and comforting, he, finally, who has created and fashioned us, he who has nourished us, he the Spirit Most Holy."³ The attributes "created by Ahura," "made by Mazda" (*ahura-dhāta*, *mazda-dhāta*), which are applied to holy places and sacred things, are among the noblest attributes that can be bestowed. Ormazd's creation is

¹ Ys. 44. 3-7. This passage is especially cited in connexion with the idea of Spenta Mainyu.

² Ys. 37. 1.

³ Translation of Ys. I. 1.

everywhere characterised as a creation of intelligence; and his creative "Wisdom" (*khra**tu*) becomes glorified as a personified abstraction, as a separate individual.¹

The same function as creator appears in the inscriptions of the ancient Persian Achæmenian kings, Darius, Xerxes, Artaxerxes, as they ascribe to Aura-mazda their creation, preservation, and all the blessing of their sovereignty in the words: "A great god is Aura-mazda, who created this earth, who created yonder heaven, who created man, and created Peace for man, who made Darius (Xerxes, Artaxerxes) king, the one king over many, the one sovereign over many."² Throughout the Pahlavi patristic literature we find identical or similar expressions which are wholly in harmony with what has been said, as are the Greek passages, so far as they imply allusions to the subject.³

Whether the creation of Ormazd was a creation *ex nihilo*, or whether it was a shaping of pre-existing matter, belongs elsewhere to discuss.⁴ A new investigation also is needed of the question as to how far, in the earliest Persian religious thought, Ahura Mazda was regarded as having created darkness or evil as in the well-known Isaiah allusion: "Thus saith the Lord to his anointed, to Cyrus . . . I form the light, and create darkness; I make peace, and create evil; I the Lord do all these things."⁵ This much, however, may be stated off-hand, that in almost every passage in Iranian literature there is no question as to Ormazd's being the author and source of all that is good; his creation is marred only by his adversary Ahriman as in the two familiar passages of the Vendidad and the Būdahishn.⁶

¹ Cf. also Darmesteter, *Ormazd et Ahriman*, p. 26-27.

² Ancient Persian Inscriptions Dar. Elv. 1 (= O. 1).

³ Phl. Bünd. I. o *dātār* "creator"; and often.

⁴ For some Avestan statistics on the subject see my notes in Peck's *Semitic Theory of Creation*, p. 25-26 (Chicago, 1886, Barclay, White & Co.), and also the remarks by Casartelli, *Mazdayasnian Philosophy*, p. 28. The subject needs a new investigation.

⁵ The most recent remark on this much-discussed passage is by Spiegel, *Zeitschrift der deutschen Morg. Gesellschaft*, LII., 189.

⁶ Vd. I. 1-20; Bd. I. 10-27. Translations may be found in the *Sacred Books of the East*.

Thou Righteous One. The true force of this final attribute "righteous" (*ashavan*), which sums up the formulaic address, can best be appreciated when we understand the significance of the original word *asha* "right, order, law, purity, righteousness," from which it is derived.¹ This is the same word as the Sanskrit *ṛta*, and it primitively denoted the order which pervades the world, the law in harmony with which men should live.² In the Avesta this concept becomes personified by Zoroaster as *Asha* "Law, Order, Righteousness," one of the seven Archangels or Immortal Holy Ones. Ahura Mazda, in the Zoroastrian Psalms, is "the father of Asha" and "the very founder of Righteousness";³ or, in the words of the Christian writer Eusebius, who quotes from Zoroaster, Ormazd is the "father of law and of righteousness"—πατὴρ ἐννομίας καὶ δικαιοσύνης.⁴ Throughout all the Pahlavi texts Aūharmazd maintains this position of righteous lord, the great upholder of that universal law and order which the world observes, the law which regulates all that is right.

Other Attributes and Functions of Ahura Mazda. From the Avesta, from the Ancient Persian Inscriptions, and from the Sassanian or Middle Persian writings, we may hastily present some of the epithets which have been gathered, and we may notice the other functions which Ormazd performs. He is not only a righteous creator but he is also the "keeper," "guardian," and "protector" of all his creatures to whom he is ever ready to lend his aid.⁵ He is "watchful" and "infallible," and he is "not to be deceived" for he is "omniscient";⁶ he is a giver of rewards and punishments,

¹ The attribute *ashavan* is by no means confined to Ahura Mazda. Like the word "righteous" in the Bible, it is used of man as well as of God; and when it is applied to sacred things it means "holy, hallowed."

² See also Darmesteter, *Ormazd et Ahriman*, p. 7 seq., and Max Müller, *Hibbert Lectures*, 1878, pp. 249-253.

³ Ys. 44. 3; Ys. 31. 7, 8.

⁴ Eusebius, *Praep. Ev.*, I. 10.

⁵ Cf. Avesta, Yt. I. 13; Ys. 31. 13; Yt. I. 12; Ys. I. 1, and cf. especially Ys. 28. 11, and elsewhere in the Avesta. For the Anc. Pers. Inscriptions see Dar. Pers. d. 16 (= H. 16) *et passim*. The Pahlavi allusions also are numerous.

⁶ Yt. I. 13-14; Ys. 45. 4; Yt. I. 7, 8, 12; Ys. 29. 4; Vd. 19. 20; Yt. 12. 1.

according to Zoroaster in the Gāthās¹; and, furthermore, the great king Darius invokes God's wrath upon his enemies as well as his blessing upon himself.²

In Plutarch he is "the Lord Ormazd," in Xenophon he is "Zeus the King"; in the Avestan Gāthās Zoroaster prays to see his "kingdom," or empire, established upon earth.³ Therefore "powerful, great, good, and royal" are among the many attributes which occur in the special chapter of the Avesta devoted to Ahura Mazda and his titles.⁴ He is "immutable," or unchanging, and his existence is from eternity unto eternity.⁵ His throne is in the heavens, in the abode of endless light.⁶ Round about him stand ministering angels and archangels. These are the Amesha Spentas



Fig. 8. ORMAZD WITH THE CIRCLE OF SOVEREIGNTY
AND THE SCEPTRE OF POWER.
(From an Assyrian Bas-Relief.)

(Immortal Holy Ones) and the Yazatas (Worshipful Ones) who make up the celestial council.⁷ They are ever ready to do his bid-

¹ Ys. 43. 4-5; cf. Ys. 47. 4.

² Anc. Pers. Inscr. Bh. 4. 73-80: Herodotus, 5. 105.

³ Plutarch, *Alexander*, 30. 3, p. 257, ed. Tauchnitz, ὁ κῆριος Ὀρομάσδης; Xen. *Cyrop.*, 3. 3. 21, ed. Breitenbach, p. 112, Δὲ βασιλεῖ; cf. Avestan, *kshathra*, "kingdom," *passim*.

⁴ Yt. I. 7 seq.

⁵ Ys. 31. 7; Phl. Dīnkarṭ (ed. Peshotan), Vol. iii. 130-132, cf. Casartelli, *Mazdayasnian Religion*, p. 24.

⁶ Ys. 28. 5; Yt. 22. 15-17; Vd. 19. 30-32; Phl. Artā-Virāf, 10. 4; Mkh. 7. 11; Plutarch, *de Is. et Os.* 47.

⁷ Hence probably *mazdāonhō* as plur., Ys. 30. 9; 31. 4; 45. 1; cf. Spiegel, *Comm. zum Av.*, ii. 181.

ding; and through these as his agents his beneficent works are shown or his mercy is manifested to men.¹ His sovereignty is undisputed save by the Evil Spirit; and when we find in the Avesta in one or two sporadic instances, this or that angel or minor divinity apparently exalted for the moment to be his peer,² we may judge that this is a mere phase of kathenotheism in the Yashts, and due either to a survival from an older pantheistic view, or to a Zoroastrian concession which may be made in recognition of some trait that belonged to an earlier stage of the faith. At all events they do not mar the picture, but serve rather to show the harmony that reigns in the heavenly hierarchy, and they detract in no wise from the true exaltation of Ormazd as "the great god, the greatest of the gods," as he is called in the Achæmenian inscriptions.

Such a Being is well "worthy of worship" as Zoroaster himself exclaims in the Gāthā-Psalms³; and, to quote from the Church Father, Eusebius, who, on the authority of Osthanes, claims that they are Zoroaster's own words, we may well cite a description which portrays the Magian idea of god as a being who is "the first, the imperishable, the invisible; unbegotten and elemental⁴; the incomparable one, the ruler of everything beautiful; the incorruptible; best among the good, sage among the sagest; the father of law and of righteousness; self taught; of his own nature and substance (i. e., *φυσικός*); perfect and wise; the sole deviser of the holy order of nature."⁵

Certain Mythological Traits, or Traces of Old Survivals. Every religion shows traces of older survivals, or a lingering tinge of na-

¹ Ys. 29. 1; Ys. 33. 11 (mercy); Yt. 19. 46 seq.; Phl. Yōsht-I-Fryānō, 2. 57; Gt. Iran. Bund. (see Darmesteter, *Le Z. A.* ii. 305-322).

² Yt. 5. 17; Yt. 8. 25; Yt. 10. 1.

³ Ys. 31. 8.

⁴ Lit. "without parts."

⁵ Euseb., *Praep. Evang.*, I. 10, cf. Kleuker, *Anh. zum Zend Avesta*, Bd. ii., Thl. 3, p. 125, and Jackson, *Zoroaster the Prophet of Ancient Iran*, Appendix V. § 18. In the magnificent folio of fifteenth century drawings in the British Museum, recently issued by Mr. Quaritch and entitled *A Florentine Picture Chronicle*, besides a picture purported to represent Zoroaster, there is also one number (No. 49) "Oromasdes raising the Dead."

ture worship, in its conception of the deity. The Psalmist's grand image of the divinity that rides upon the wings of the wind, with clouds and darkness beneath his feet, and with darkness and lightnings around his throne, or, again, who makes the heaven his seat and the earth his footstool, is a picture not free from naturalistic touches. Zoroastrianism cannot be expected to be more exempt than Judaism from preserving some traces of an original identity of the god idea with the sky.¹ Search in the Iranian scriptures will reveal the presence of certain physical traits in the notion of godhead which survive from an older stage of the religion and represent a more material and concrete conception than the spiritual and abstract idea described. We ourselves know how to judge of these.

The prayer to the father "in heaven" is as old as religion itself. God dwells in the sky and sometimes he is one with the sky. When Herodotus says the Persians "call the whole circle of the heaven Zeus," or when Darius invokes Zeus (i. e., Ormazd) as he launches the arrow skyward and vows vengeance against the Athenians, we see in these instances merely an evidence of what belongs alike to every religion, to every race and clime. Allusion has already been made above to such lingering touches of an original stage of nature worship or to mythological traces which may still be recognised in the figure of Ormazd.

Darmesteter has especially called attention also to certain points of likeness between Ahura Mazda and the divinity of the sky, if not of the waters, Varuna, in India.² These may be regarded as traits that have been preserved from a common Indo-Iranian or proto-Aryan period. But after all, the resemblances are subordinate in comparison to the individuality and originality of the Persian conception of the godhead; and they fade into the background when the figure of Ahura Mazda is viewed in its full light. How different, moreover, the fate of the Indian divinity was in contrast to the Iranian deity, may be judged from history. India's ancient

¹ Cf. Cornill, *The Prophets of Israel*, pp. 20-21.

² Darmesteter, *Ormazd et Ahriman*, Paris, 1877.

divinity Varuna sank more and more into the shadow and grew dimmer and dimmer in outline. Persia's divine being advances more and more into the light, rising higher and higher as time goes on, and is transfigured under the idealistic touch of Zoroaster until it stands forth with an effulgence so brilliant as to render Mazdaism, or the religion of Mazda, almost monotheistic in its character because of this exaltation of the single Supreme Being.

Summary and Conclusion. Zoroastrianism, and the religion of Ancient Persia, presents us with a strikingly ideal conception of the godhead. In its purity and spirituality the figure possesses an individuality, elevation and loftiness that is not to be paralleled in the ancient religion of Greece, of Rome, of India. The gods of the Greek and Roman pantheon, with their human forms, their human passions, their human failings, can offer no likeness to the Lord God of Iran with his heavenly host of angels and archangels. Nor can the frenzied Indra, exhilarated by copious draughts of intoxicating *soma* and accompanied by the warring elements of the storm, afford a parallel. No, nor the pale and colorless Brahma, nor that vague Nirvāna or state into which the faithful follower of Buddha sinks back or is re-absorbed. No, none of these present a true match for such a conception of the Supreme Being as Zoroaster taught. The majesty of the kingly figure of Ahura Mazda in the Avesta, in the Achæmenian inscriptions, in the Pahlavi literature of Sassanian times—this truly characteristic production of Zoroaster's spirit—finds its parallel and superior in Sacred Scripture alone. The concept of Ormazd, however, in its purity, its ideality, its dignity, can offer a fair comparison to the flaming majesty of the Holy One of Israel, the God of truth, of justice, of power and of wrath, or to the Being who, in our Saviour's teaching, is more especially the God also of love, of goodness and mercy—the Father in Heaven in whom we believe and place our trust.

In one point, however, the god of ancient Persia strikingly differs from the God of Israel. This is in the attribute of Omnipotence. Ahura Mazda, although omnipresent and omniscient, is nevertheless not omnipotent; his power is ever limited, hampered, confined, by that self-existent, coeval, but not co-eternal, rival—

Anra Mainyu. "May Ahura Mazda rule at will over his creatures"—rule at will, as shall be when the millennium comes—this is the constant prayer of the pious Zoroastrian. But a fuller discussion of this point and of the resemblances between Ormazd and Jehovah, must remain for another occasion.

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VITALISM.

THERE are certain undying questions which periodically recur in varying forms at successive stages in the advance of knowledge. And when these are critically examined they will generally be found to contain a metaphysical or noumenal element. Such a question is that which falls under the head of Vitalism. Is the conception of Vital Force valid, and is it necessary for the comprehension of the phenomena of organic life? This is the question I propose to discuss in the light of principles already considered. It will probably conduce to clearness if the question is distributed thus: Is Vital Force a valid and necessary conception in the sphere of metaphysics? Has it any *locus standi* in the sphere of science?

A reminder as to the distinction already drawn between science and metaphysics may here be necessary. Both deal with causation; both offer explanations. But whereas the explanations of science refer particular events to the generalisations within which they are comprised (thus the fall of a stone to the earth is referred to the generalised statement of universal gravitation); and whereas they deal with causation in terms of antecedence and sequence, the facts being accepted as data; the explanations of metaphysics offer an answer to the question: Why are the facts such as we find them to be? They deal with causation in terms of noumenal origin or *raison d'être*. The science of dynamics tells us that, given such and such nature and distribution of the parts of a material system, such and such movements or states of strain do as a matter of fact occur. If we ask why such movements or

strains occur under these circumstances, metaphysics replies that Force is the noumenal Cause of motion or of strain. It is true that at the beginning of treatises on the science of dynamics there is usually a reference to Force as the Cause of motion. But this is merely a pious tribute to metaphysics, like grace before meat, and has no influence on either the quality of the dinner or its subsequent digestion. Of such a nature is Vital Force. It is a perfectly legitimate metaphysical conception of the noumenal Cause of certain observed phenomena, and should take its place alongside Gravitative Force, Chemical Force, Crystalline Force and the rest of the stalwart metaphysical grenadiers.

It is in large degree because, when Vitalism is the topic of discussion, the disputants on each side fail to distinguish the metaphysical from the scientific elements of the question, that we seem to be as far from a satisfactory solution of the problem as were our fathers a generation ago. Only when the distinction is adequately realised will the combatants be prepared to confess that the battle is drawn, each side holding unconquered an impregnable fortress—the shattering of certain weak outworks, which should never have been occupied, serving only to show the real strength of the central position of either contending host.

It is unnecessary to enter at any length into the past history of the subject. Sufficient unto the generation are the conditions under which its problems must be discussed. Of old, before the forces of science had girt their strength about them, Vitalism held the field in easy if somewhat lax possession. Then came a period of organised attack. Chemistry and molecular physics had formulated and extended their generalisations and began to urge that the problems of physiology were problems of chemistry and physics—nothing more. There was no vital remainder. Taking their stand on the conservation of energy, they contended that the conception of Vital Force involved the appearance of energy without physical or chemical antecedents. This carried conviction among some of our leading physiologists. Prof. Burdon Sanderson wrote: “The proof of the non-existence of a special ‘vital force’ lies in the demonstration of the adequacy of the known sources of energy in the

organism to account for the actual day by day expenditure of heat and work." But an answer in due course came from the vitalists. It was pointed out that the application of a force to a moving body at right angles to its course, alters the direction of motion without affecting its amount. The energy remains unchanged. Of such a directive character, it is sometimes urged, may be the application of vital force without presenting any phenomena contradictory of the generalisation that, in the operations of nature, energy is nowhere either destroyed or created.

So long as the metaphysical conceptions of Force are carelessly commingled with the generalisations of dynamics as a science, this line of argument may appear to possess a cogency which is in truth fictitious. But what is the basal law of dynamics? That every movement of a part in any material system and every state of strain therein, has, as its antecedent, the assignable nature and distribution of the constituent parts in that system. This is a generalised statement of dynamic fact which quietly ignores (though it does not deny) the existence of Force as the noumenal cause of motion. Granting therefore that a vital force is conceivable which alters the direction of motion without producing any change in the amount of energy, the question still remains: Is the movement so produced in accordance with, or is it contradictory to, the basal law of dynamics? For the change of direction of motion is itself a motion, though it be unaccompanied by any increase or diminution of energy. If therefore the motion in question is the outcome of the nature and distribution of the constituent parts in a material system it is a natural movement co-ordinate with other physical movements, and Prof. Burdon Sanderson's contention is in essence valid, as a protest against supernaturalism, though it is incompletely stated; if on the other hand the motion is not such an outcome, then, though the conservation of energy may still hold its ground, what I have termed the basal law of dynamics cannot. There are movements of material particles which are outside this generalisation. It is questionable, however, whether there are many vitalists of scientific training who would care to contend for the truth of this conclusion.

It may be said that I have here quietly ignored certain essential features in any dynamical configuration—namely, the nature of the forces (gravitative, crystalline, chemical, electrical, and so forth) at work within the given system. But from the point of view of science the attractions or repulsions attributed to these forces are merely data to be accepted and stated as simple facts of observation. They are the outcome of the nature and distribution of the parts of the system—including under the head “nature and distribution” the totality of the antecedent conditions. No doubt the antecedent conditions are different according as we place a piece of cork or a piece of sodium on the surface of water. In the one case certain chemical attractions have to be taken into account which in the other case are absent. These form part of the dynamical data without which the problem is insoluble. Science accepts these data as facts in the phenomenal chain of antecedence and sequence. Metaphysics attempts to account for the facts by the conception of Chemical Force. The chemist, as man of science, says: Give me the facts of chemical dynamics and I will comprise them under broad generalisations. The Force, for what it is worth, may be given to that poor beggar of a metaphysician who sings his doleful ditty in the street.

At the same time it should be noticed that we do here open up an obviously important issue. No one has yet been able to show how certain observed modes of attraction can be developed out of others. No one has been able to suggest how, for example, the specific mode of attraction we call cohesion can originate from that which we call gravitation. All that we can say is that, amid all the varied modes of attraction, the sum of energy remains constant. A candid and impartial inquiry into the facts enables us to realise that, under these or those assignable conditions, new modes of attraction supervene—modes which, with our present knowledge, no one could have foretold, since in science it must not infrequently suffice to be wise after the event.

These facts are too often forgotten or overlooked by those who attempt a merely mechanical interpretation of phenomena. It appears to be undeniable that when oxygen and hydrogen combine

to form water, or when aqueous vapor in the atmosphere condenses, under these conditions to form rain-drops, and under those to form crystalline snow-flakes, new modes of attraction are manifested for our study and new properties in the products for our investigation. Metaphysically regarded, these are new manifestations of Force, the underlying Cause of attraction. And if by the doctrine of Vitalism no more is implied than this—that, when organic matter first came into being, new modes of attraction and new properties appeared in the field of phenomena, few biologists, I conceive, would hesitate to acknowledge themselves Vitalists to the core. Who is prepared to assert that the molecular changes involved in the attraction and coalescence of the male and female pronuclei, or the rhythmic pulsation of the contractile vesicle in amoeba, or the fission of the lowest protozoan animalcule, is anywhere foreshadowed in the inorganic sphere? It is questionable whether the absorption of fluid by any living membrane is a matter of mere osmosis. And though not a few organic products have been artificially manufactured in the laboratory, we seem as far as ever from simulating the synthesis of the digestive secretions. If Vitalism have such facts as these in view it need send forth no missionaries to convert biologists to the true faith. And if Vital Force mean the underlying Cause of such phenomena it may be as freely admitted as Gravitative Force or that which underlies the observed facts of cohesion.

But the champions of Vitalism mean something more than this—or so it appears from the language they are wont to employ. They make no parade of the mystery of gravitation; they do not plead with us to regard chemical attraction as something outside the recognised order of nature; they do not press upon us the conclusion that when the first doubly-oblique crystal came into being, a directive force was brought into play—a force of precisely the same character as that which enables the sculptor by the exercise of his Will to carve from the shapeless marble a Venus of Milo; they do not write books and magazine articles to convince us that the natural origin of the lightning flash is inconceivable. But of this kind are the attitudes they too often assume when the phe-

nomena of life are in question. The origin of life is a mystery; it marked a new epoch in Creation; its phenomena demand the belief in a quasi-intelligent directive force; its natural genesis is not only unproven but beyond the limits of human conception. Against such a doctrine of Vitalism an energetic protest should be entered, both by science and by a metaphysics which (if such a thing be possible) preserves its sanity.

In his recent presidential address before the chemical section of the British Association on the occasion of its meeting in Bristol (1898), Professor Japp urged the claims of Vitalism from the point of view occupied a generation ago by Pasteur. His presentation of the subject was admirably lucid, and his arguments ably marshalled. It is worth while to examine the position taken up by so well-accredited an advocate.

The salient facts and conclusions are briefly as follows: When polarised light passes through certain substances the plane of polarisation is rotated—in some cases to the right in others to the left. "The effect is as if the ray had been forced through a twisted medium—a medium with a right-handed or a left-handed twist—and had itself received a twist in the process; and the amount of rotation will depend (1) upon the degree of twist in the medium (that is, on the rotatory power of the substance), and (2) upon the thickness of the stratum of the substance through which the ray passes; just as the angle through which a bullet turns, in passing from the breech to the muzzle of a rifle, will depend upon the degree of twist in the rifling and the length of the barrel."

Now these optically active substances, as they are termed, may be divided into two classes. Some, like quartz, produce rotation only in the crystallised state; the dissolved or fused substances are inactive. Others, like sugar, are optically active and produce rotation, not only in the crystallised state but also in the liquid state or in solution. In the former case the molecules of the substance have no twisted structure, but they unite to form crystals having such a structure. As Pasteur expressed it, we may build up a spiral staircase—an asymmetric figure—from symmetric bricks; when the staircase is again resolved into its component bricks, the

asymmetry disappears. In the case however of compounds which, like sugar, are optically active in the liquid state, the twisted structure must belong to the molecules themselves. Such molecular asymmetry is, so far as we know, only found in organic substances; and their production is one of the distinguishing characteristics of living matter.

But there are sundry substances, such as racemic acid, which, though they are inactive, owe their inactivity to the equilibrium of opposite rotations. When a solution of one of the salts of this acid is evaporated, beautiful hemihedral crystals, belonging to the rhombic system, are obtained. Such hemihedral crystals are asymmetrical. But Pasteur found that they are not all alike. Half of them are lop-sided in one direction; the other half in the other direction. They answer to each other as our right hand answers to the left; each is the mirror image of the other. Such pairs are termed enantiomorphs. Furthermore, if all the right-handed crystals, and all the left-handed ones, be picked out and dissolved to make two solutions, each solution will be optically active, the one with a left-handed, the other with a right-handed twist. But in all other respects they are alike. Their salts have the same solubility in symmetric media, the same specific gravity, and so forth. It is assumed, therefore, that in the original solution right and left-handed molecules exist in equal proportions, and that their equal and opposite optical activities balance each other so as to give apparent inactivity.

If now such a mould as *Penicillium* be grown in a solution of the ammonium salt of racemic acid, fermentation takes place; and the solution, originally inactive, becomes optically active. The living substance is able to select all the optically right-handed moiety of the solution, leaving the left-handed moiety intact; and from this the appropriate lop-sided crystals, of one type only, may be readily obtained. It is urged, therefore, that there are two modes, and only two modes, in which the complementary types of molecules commingled in a racemic or analogous solution can be separated,—either by the selective action of a rational being who has this end in view, or by the action of living organic matter or its

products. The separation cannot conceivably be effected through the chance play of symmetric forces. The absolute origin of one-sided asymmetry is a mystery as profound as that of life itself. "No fortuitous concourse of atoms, even with all eternity to clash and combine in," says Professor Japp, "could compass this feat of the formation of the first optically active organic compound." "I see no escape from the conclusion," he adds, "that, at the moment when first life arose, a directive force came into play,—a force of precisely the same character as that which enables the intelligent operator, by the exercise of his Will, to select one crystallised enantiomorph and reject its asymmetric opposite."

Such is one of the latest pronouncements of Vitalism. Let us critically consider the evidence; but before doing so let us endeavor to be quite clear on certain preliminary matters of broad and general application.

Are we to regard the argument as special and applicable to Vitalism only; or are we to look upon it as general and applicable also to Chemism, Crystallism, and an indefinite number of other isms? Are we to look upon the directive force, analogous to that exercised by an intelligent operator, which, we are told, was called into play at the moment when first life arose, as something essentially different in its nature from anything which is found in the inorganic world? Is it alone characterised by its directiveness; or is such directiveness exercised elsewhere in nature in different modes and under different conditions? Again, is the inconceivability of the origin of asymmetry from "the chance play of symmetric forces," special to the problems suggested by living matter, or is it only a special example of an inconceivability which faces us in other regions of our extended survey of nature? Once more, is genesis by fortuitous concourse of atoms (a conception in itself bewildering in its irrationality) unsatisfactory where protoplasm is concerned, though satisfactory for inorganic products; or is it to be regarded as intrinsically absurd as a way of accounting for anything in an orderly world of phenomena? The answer to these questions is really of fundamental importance. It makes all the difference whether we are discussing something which is distinctive of life

and its origin—distinctive not only in its mode of operation but in its essential character—or whether we are discussing principles which are common to natural phenomena, including those of organic nature, in many of their varying phases. A belief in the former, as implying a supernatural hiatus between the inorganic and the organic, is to be regarded as unphilosophical and misleading; the acceptance of the latter is the logical outcome of a survey of phenomena and the teaching they afford.

I have no wish to imply that Professor Japp in his address intended to limit the application of a "directive force" to the phenomena of life. But I am quite certain that many of those who read that address will read it in this sense. And it is rather to them than to him that I would address the remarks that follow. It will serve to put the matter in a clearer light if we state the question in a somewhat concrete form, and ask: Is there anything in the phenomena of life which differs, not merely in mode of operation but in principle, from what may be discovered in the phenomena of crystallisation? It is convenient to select crystallisation because here also we are presented with certain optical effects.

First let us consider the building up of crystalline forms. All known crystals may be classified in six groups or systems, and their forms being solid geometrical figures, the relations of the faces to each other may be expressed geometrically. To lessen confusion, let us limit our attention to three readily obtainable crystalline forms. If we allow a solution of aluminium-potassium sulphate to evaporate slowly, large octohedral crystals of alum will be produced. Each is symmetrical in all crystallographic respects. Each has six points or solid angles, and it matters not which of these points is placed uppermost. Imaginary straight lines drawn from point to point within the crystal are spoken of as the axes. There are three such axes, all at right angles, and all of equal length; and any face of the crystal cuts three of these axes symmetrically at equal distances from the centre of the figure. Next allow a solution of sulphur in carbon bisulphide to evaporate slowly. Rhombic crystals of sulphur will be obtained. There are six solid angles as before, but they are not symmetrical in the same sense. They

answer to each other in opposite pairs, but they are not all alike. There are three axes, and all are at right angles, but they are all of different lengths. Any face of the crystal cuts three of them, but at unequal distances from the centre of the figure. Whether we take large crystals or small crystals, these distances are proportional; and the angle between any similar pair of faces remains constant. Thirdly, let a solution of sulphate of copper evaporate and give rise to crystals of blue vitriol. The geometric figure is far less simple and symmetrical. At first it may seem that all the faces are dissimilar. But closer study shows that there are pairs of faces, situate opposite and parallel to each other, which are alike; but no one of these pairs is like other pairs. There are still three axes; but not only are they of different lengths, but no two are at right angles to each other. They are inclined at different angles; hence they are said to belong to the doubly-oblique or triclinic system.

Such, stripped as far as possible of technical details, are the observed facts with regard to these three kinds of crystalline architecture. The alum, the sulphur, and the blue vitriol, present us with three types of crystal; but the crystals of each substance remain true to their several types. There is no theory about this; it is merely a statement of facts of observation; for the reference to supposed axes is merely for convenience of geometrical expression. Apart from crystallisation there is nothing quite like this method of building in nature. To say that such crystals result from the fortuitous concourse of molecules is nothing less than grotesque. But if it is not a fortuitous concourse of molecules, it must be a directed or (to use a better word) determinate concourse. How then does the determinism of the crystal, each after his kind, arise? A science which has learnt the grace of modesty can only reply: We do not know. To drop into the colloquial, if not very elegant, prose of Dr. Watts's hymn, one can but say: For 'tis their nature to. Such are the facts. We believe that they are the visible expression of certain attractions or repulsions; and if we like to dip into metaphysics we may add that the cause of these attractions is crystalline force. Surely we may say here with just as much (or as little) cogency as may be said with regard to the phenomena of

life, that when the first crystal arose, a directive force came into play—a force of precisely the same character as that which enables an intelligent operator, by the exercise of his will, to build up the model of a crystal.

If it be urged, with an almost desperate appeal to metaphysics, that the potentiality of assuming the crystalline form existed in certain kinds of matter ere ever a crystal was formed, it is difficult to see wherein this assertion differs from Tyndall's celebrated poetic outburst, when he proclaimed that he could "discern in that matter which we, in our ignorance of its latent powers, have hitherto covered with opprobrium, the promise and potency of all terrestrial life." Such appeals to potentialities and potencies do not really help us in any appreciable degree. To say that crystalline polarity is due to the polarity of the molecules merely shifts the question back a step; for we must still ask: How did this molecular polarity arise? At some stage, sooner or later, we are brought face to face with the final answer of science; that such is the observed or inferred constitution of nature. The reference to potency and potentiality is merely a somewhat pompous mode of stating that what does occur under certain conditions can occur under these conditions.

We may now pass to the brief consideration of certain optical effects which are observable in our three crystals. If a number of sections be cut, so as to give us flat plates, some being cut from the crystal in one direction and others in other directions, that is to say, making various angles with the geometrical axes; and if these be placed on a piece of white paper over a minute inkspot thereon; then it will be found that, in the case of the sections or slices of alum, they are all alike in exercising no peculiar influence on the rays of light passing through them from the inkspot. Through every one of them a single image of the inkspot will be seen. There is no double refraction. But in the case of all, or nearly all, of the plates of sulphur or blue vitriol (in all save those which are cut at right angles to two imaginary lines termed the optic axes) two images of the inkspot will be seen, or might be seen if the plates were thick enough and sufficiently transparent.

The slices exhibit the phenomena of double refraction. The rays of light which pass through the crystalline plates are divided into two groups. And by appropriate means it can be shown, first that the two groups pass through the plate at different rates, one group being more retarded than the other; and secondly that each group consists of polarised rays, or rays the vibrations of which are all parallel to one plane. In the two groups the planes of polarisation are at right angles; thus if we call the one *N* and *S* the other will be *E* and *W*.

It is clear therefore that there is something about the crystalline plates of sulphur and blue vitriol (and these differ from each other in ways which need not be entered into) that produces certain peculiar optical effects. Now it is found that a plate of glass behaves just like a plate of alum and produces no double refraction. But if the plate be unequally heated, or if it be subjected to a mechanical twist, double refraction is induced. Since therefore this optical effect may be artificially induced by differential strain it is reasonable to suppose that the plates of sulphur and blue vitriol are, under natural conditions, in a state of differential strain, of which double refraction is the optical expression. And since solutions of sulphur and blue vitriol show no double refraction it is reasonable to suppose (on the assumption that the molecules themselves undergo no change during solution) that the strain is produced by the interactions of the molecules when they assume the crystallised state. So that, if we are to use the analogy of the intelligent operator, not only does he build up the crystals in definite geometric forms, each true to its system type and to its generic and specific type within the system, but he introduces the dynamic element of differential strain itself true to its system type, and to its generic and specific type within the system. And these differential strains are not manifested until crystal forms arise in the course of what we believe to be a natural process of evolution.

There is one more lesson which the crystal has to teach. It exercises a further differential influence which is markedly selective in its nature. If, for example, we take a plate of the mineral tourmaline, cut parallel to the principle geometrical axis, the light

within the crystal is divided into two groups of vibrations polarised in opposite planes. But only one group passes through the crystal and reaches the eye; the other is quenched within the plate. So that the crystallised substance "selects" one set of polarised rays for transmission and the other set for extinction.

Some crystals of quartz exhibit small asymmetric faces. The common form of this mineral, with a hexagonal prism capped by a hexagonal pyramid is a familiar object. But sometimes the solid angles between the prism and the pyramid are asymmetrically bevelled off to form these tetartohedral faces. And these faces are situated in some cases to the right and in others to the left. The complementary forms are thus mirror-images of each other. They answer to each other as the right hand answers to the left. They are enantiomorphs. And each has the property of rotating the rays of plane-polarised light to the right or to the left according to the position of the asymmetric faces. These effects may be attributed to differential strains; and since they are only observed in the crystalline condition of quartz, it is held (on the assumption that fusion does not alter the molecules) that the strains are inter-molecular (or between the molecules) and not intra-molecular (or within the molecules). However they arise, there they are, exhibiting a yet further differential effect on the ray of light. We do not know whether the right-handed or the left-handed forms predominate in nature; or whether the numbers, or the joint mass, of the one exactly balance those of the other.

Thus we lead up to the enantiomorphs in crystalline substances of organic origin. As Professor Japp points out, the fact that an optical twist is produced, not only in the crystalline condition but also in solutions, leads us to suppose that the differential strain is intra-molecular and not inter-molecular. His thesis is that, since the enantiomorphs or mirror-types are produced in complementary pairs (right-handed and left-handed rotation being equal and opposite in amount) the selection of either for predominance is "absolutely inconceivable" under the play of symmetric forces. But the teaching of the crystal has made us familiar with the fact that a mode of optical "selection," if not this mode, occurs under the

play of natural forces. For the tourmaline plate selects vibrations in one plane for transmission and vibrations in the opposite plane for extinction. And the teaching of the solar system with its predominant anti-clockwise rotation, has made us familiar with the fact that from the play of (presumably) symmetric forces an asymmetric resultant may arise.

Let us however look at the actual facts. We find that from a racemic solution enantiomorphous, mirror-type crystals, up to a size of, say, half an inch, may be produced, some right-handed, others left-handed, in equal amounts. What gives rise to the observed preponderance of right-handed molecules in the one crystal and of left-handed molecules in the other? Must we not reply either that there is a selective influence at work at a stage prior to that postulated, or at any rate emphasised, by Professor Japp; or that chance gave an initial preponderance, here of the one and there of the other, and thus formed nuclei for the further segregation of like to like? Either answer is difficult to square with Professor Japp's essentially vitalistic conception. In any case crystals half an inch or so in diameter, some right-handed and others left-handed, are actually formed. And it is scarcely an extravagant supposition, one certainly not beyond the bounds of conceivability, that, given a finite number of such crystals, a quite indiscriminate mode of destruction might reduce this finite number to one, or to a small uneven number, and thus leave a group with a preponderance of one or the other type of molecule.

Now granting that the first formed organic molecules were possessed of equal and opposite rotatory powers, is there anything inconceivable in the supposition that when these segregated into units of protoplasm, some of these units were right-handed, and others left-handed, in equal amounts? Nay rather, may we not apply the lesson of the racemic crystals here, and urge that the observed segregation in the crystals renders it probable that a similar segregation occurred in the units of protoplasm? And the analogy

¹ Prof. Karl Pearson has, since this was written, adopted a similar line of argument. See *Nature*. Nov. 10th, 1898, p. 30.

in the two cases is strengthened when we remember that the rotatory property is not the outcome of the crystallised condition but is (as solution is held to show), of intra-molecular origin. But if this be so the units of protoplasm, the initial starting-points of life (starting-points with some of which existing life is continuous), were individually asymmetric, though in the aggregate of distinct individuals their asymmetry was complementary. And this is just what is denied to be conceivable under natural conditions! So far from being inconceivable it is precisely that which known facts render inherently probable.

Lastly, if we grant that, when protoplasm first came into being, asymmetric molecules had their initial genesis, is there anything here different in principle from that with which the study of inorganic nature has already made us familiar? Such asymmetry is presumably due to differential strain between the atoms, or between subordinate groups of atoms, within the molecule. But the lesson of the crystal tells that certain modes of differential strain, elsewhere unknown in nature, arise under appropriate conditions, and should prepare us to learn, in the succeeding organic lesson, that other modes of differential strain may arise under other conditions. When we remember of what an extraordinarily complex group the molecule of protoplasm in all probability consists, it seems hazardous to assert that circular polarisation cannot be its natural prerogative, just as plane polarisation is a natural property of the much simpler group of molecules in the crystal of sulphur or blue vitriol, especially when we find crystals of quartz and other inorganic substances, possessed of circular polarisation.

And so, after (it is feared) much technicality of discussion,—technicality which can scarcely be avoided if the discussion is to be adequate,—we reach the conclusion that, in so far as the hypothesis of Vitalism merely directs our attention to those new modes of attraction and of intra-molecular strain, together with other concomitant properties, the occurrence of which in living matter is observed or inferred, it is doing good service. But when it asserts that any natural connexion or analogy between these properties and those found elsewhere in nature is inconceivable; when it hints at modes

of action not in accordance with the conservation of momentum and what has been described as the basal law of dynamics ; when it invokes the *special* intervention of a directive force, analogous to that exercised by an intelligent operator ; then it is not doing good service and must be arraigned at the bar of science and metaphysics. And if vital force is to be placed alongside crystal force, as the noumenal cause of certain observed or inferred attractions and repulsions, we can discuss its validity without doing violence to our conceptions of the universe as a rational whole ; but if it is to be regarded, not as immanent and acting within the material system, but as external and introduced from beyond the system, then we must regard it, not as a friend to be welcomed, but as a foe whose insidious attacks must be repulsed lest it hold our weaker brethren in bondage.

Notwithstanding some appearances to the contrary, I venture to hope that the conclusion to which we have here been led is substantially in accord with that which Mr. Herbert Spencer reaches in the new edition of his *Principles of Biology*. He there contends for a principle of activity, elsewhere termed a special kind of energy, which constitutes the essential element in our conception of life. He urges that this is conceivable neither as something super-added from without, nor as something inherent in organic matter. And he regards it as due to that Ultimate Reality which underlies this manifestation as it underlies all other manifestations. He reminds us that the actions of that which the ignorant contemptuously call brute matter, cannot in the last resort be understood in their genesis. And in concluding that, on the one hand, we find it impossible to think of life as imported into the unit of protoplasm from without, so also, on the other hand, do we find it impossible to conceive it as emerging from the co-operation of the components ; he attributes this to the fact, that while phenomena are accessible to thought, the implied noumenon is inaccessible ; that only the manifestations come within the range of our intelligence, while that which is manifested lies beyond it.

We will not stay to inquire how it comes about that the existence of a noumenon inaccessible to thought can be implied. Mr.

Spencer's meaning, I take it, here and elsewhere, is, that though noumenal existence is implied, and so far comes into the field of thought, its nature is unknowable,—a conclusion which need not here be discussed. The essential point seems to be that new modes of manifestation imply new modes of activity in the noumenal cause; and this is just the conclusion to which our own discussion has led up. At the same time there are some statements of Mr. Spencer which may well seem to indicate an interpretation different from that which I have endeavored to present, and more akin to that against which I have been contending.

On the first page of the *Principles of Biology* we are told: "The properties of substances, though destroyed to sense by combination, are not destroyed in reality. It follows from the persistence of force, that the properties of a compound are the resultants of the properties of its components,—resultants in which the properties of the components are severally in full action, though mutually obscured." And in the discussion of the dynamic element in life we read: "The processes which go on in living things are incomprehensible as results of any physical actions known to us;" and again: "We find it impossible to conceive life as emerging from the co-operation of the components of protoplasm." Now, if these statements be taken to imply that in the organic world an incomprehensible principle of activity comes into operation different, not only in its mode of manifestation, but in its essential nature, from anything to be found in the inorganic world, (and this at first sight does seem to be implied,) then must Mr. Spencer be looked upon as a champion of Vitalism in its unsatisfactory form. I cannot believe that this is the true reading of Mr. Spencer's statements. It does not accord with the broader contention that the Ultimate Reality behind this manifestation, *as behind all other manifestations*, transcends conception. It must be remembered that Mr. Spencer has (to our great loss) been forced to omit from his System of Philosophy the volumes which should have dealt with inorganic evolution. May we not, from the general tenor of his thought from such statements as are found in the "letter to the Editor of *The North American Review*," and from other passages of his works,—may we not

from these conclude that, had the inorganic volumes been written, it would have been shown that in the genesis of the crystal too a new manifestation of Force came into play? And may we not fairly place parallel to each other the following assertions: first, that we are obliged to confess that life in its essence cannot be conceived in physico-chemical terms,—one which Mr. Spencer does make; and, secondly, that we must similarly confess that crystallisation in its essence cannot be conceived in gravitative terms,—one which Mr. Spencer does not make, but which is, I conceive, nowise contradictory of anything that he has written?

But perhaps I have no right to fly the commodore's flag at the masthead of my own craft; and, in any case, no impertinence to a superior officer is thereby intended. The conclusions reached must be taken for what they are worth; no banner of authority can render them better or worse. Those conclusions are, that, if by Vitalism we give expression to the fact that living matter has certain distinctive properties, it may be freely accepted; but that if by it we imply that these properties neither are nor can be the outcome of evolution, it should be politely rejected; and further that, if by Vital Force we mean the noumenal Cause of the special modes of molecular motion that characterise protoplasm, its metaphysical validity may be acknowledged, so long as it is regarded as immanent in the dynamical system and not interpolated from without in a manner unknown throughout the rest of the wide realm of nature.

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EVOLUTION EVOLVED—A PHILOSOPHICAL CRITICISM.¹

INTRODUCTORY NOTE.—May I begin by forestalling certain possible criticisms or misunderstandings of what I am to say here? True, in the course of my paper I shall issue occasional cautions, but an introductory caution or two seems desirable.

Thus, I am far from making a personal attack upon evolutionists. Darwin, among others, will still be left when I am through, and his contribution to thought will seem greater, not less, if the purpose of my paper is even only approximately realised. A truly philosophical criticism does not attack; it examines and tries to fulfil. To carry evolution through to its only legitimate conclusions, to evolve evolution, as my title has it, is what I have undertaken. I would do something towards freeing evolution from the integument of other views out of which it has sprung.

Furthermore I recognise that science and philosophy are separated in their interests, or in their points of view. Some of the evolutionists' doctrines, that I am to criticise, are without doubt due to the necessities of what we call scientific investigation and formulation. Science as science has to deal with details, with special spheres of experience, while philosophy can never stop short of a theory of the universe. But, nevertheless, the limitation of science is no reason for objecting to the critical examinations of philosophy; it is, on the contrary, an ever present demand for philosophical criticism. The partial view, however scientifically accurate, cannot but be also formal or phenomenalistic.

And I recognise that science is in reality not so very far from what my criticisms here will seem to be exacting of her. She is, then, not so far behind philosophy as I may seem to be making her. The scientists in many quarters have indeed been their own critics, and in point of fact philosophical criticism never comes under other conditions, never comes, as it were, out of a clear sky. The philosopher can only formulate the thought that already is. Some evidences of sci-

¹ This paper was read before the Katholepistemiad Klub, of the University of Michigan Faculty, and also at a public meeting of the University of Michigan Philosophical Society, in October, 1898.

ence's present progressive condition are to be mentioned here and many more might be and there simply must be many others of which I am ignorant. But, aside from what has just been said, that philosophy only formulates existing thought, my criticism must be taken to be as much of a general standpoint as of specific doctrines, and it must be remembered also that a philosopher has always a double responsibility. He must wait upon science, and in addition upon the prevailing understanding of science, being in his social function a mediating agent, and this double responsibility is bound to hold him a little "behind the times," as the phrase runs. It is a strange phrase, is it not?

And, as a last introductory caution, if you are now holding in your mind certain ideas, whether from ordinary life or even from science, of such words as organism, environment, life, individual, inorganic, and the like, then as a philosopher I must ask you not to expect me to conform slavishly to your verbal dogmas. Did I conform, my very criticism would have to go to the winds. It is not the function of philosophy—and this is hard for a great many people, even for modern evolutionists, to understand—to perpetuate dogmas. The function of philosophy is to evolve the inner truth or the inner spirit of a dogma out of the letter that oppresses. Science, as the clearest and most exact formulation of the ordinary consciousness, may need a fixed, a dogmatic terminology, but philosophy is too self-conscious, too self-critical in its use of words to rest upon any such uncertain certainties. But you say, with so many others, that philosophy should devise a terminology of its own. How thoughtless you are! Would you rob philosophy of her relation, of her responsibility to life? Would you—well, perhaps you would disarm her criticism!

EVOLUTION EVOLVED.

IT is fair to suppose that the prevailing good-natured toleration between science and philosophy is in control here. Of course, philosophy is always ignorant of facts, and science in her turn is at least equally blind to conclusions or to so-called metaphysical implications. Facts, moreover, being of necessity partial and abstract, are certainly not less misleading than the visions of the invisible that philosophy so delights in; nor has the blindness of science been one whit more useful in man's progress towards an understanding of his universe than the ignorance of philosophy. If the blindness of our modern science to what we often hear styled the truths of the spirit has been the means to all the wonderful discoveries of the century, we need to remember also that the ignorance of Socrates, or more specifically the growing mistrust of the

senses that came to the Mediterranean peoples in Socrates's day, made our modern era possible, and that only by a similar ignorance at the present time can the knowledge of our day ever hope for fulfilment in a real wisdom.

One of the ways in which an ignorant philosophy deals with a blind science is to raise a cry for consistency. Scientific theories, although founded on facts or because founded on such transitory things as facts, must be first of all responsible to each other. The different sciences are but so many different views of one reality. Their different fields are but different related aspects of a universe. Undoubtedly it is true that theories, even in widely separate spheres, always are in a striking degree sensitive to each other's contentions and to each other's changes. They are sensitive even in spite of themselves, as their history shows; and the interaction among them does but indicate how true it is that an organising mind lives within or underlies—only neither of these metaphors is at all adequate—the separate thinking of individuals. But philosophy, issuing a call for consistency, aims to make the indwelling or underlying mind more clearly conscious of itself. Philosophy would awaken the sciences to a living sense of their mutual responsibilities.

And the awakening always transfigures the universe that the blind theories had been staring at so zealously. Space and matter and life and man and any one of the other interests of the different sciences are not so many separate details that can be separately studied. To study them separately is to get only abstract and wholly phenomenalistic results, although what Herder called "the wonderful symmetry" of things or of minds always insures the *form* of a truth that is universal, that is fundamental and really concrete. All the many interests of the sciences, I repeat, are one, and accordingly the understanding of them must be a single consciousness, a single organising and transfiguring idea. The form that springs from the symmetry must come to light as *the pre-eminent fact*. What an evidence of our human frailty that the word fact ever got a plural! Has not somebody said somewhere: "Fact is one and single; facts are lies?" If not, somebody ought to have

said it long ago; and to have said it particularly with reference to the "facts" of life, man, matter, and the rest.

But, here to turn to the special business of this paper, there prevails among us and has prevailed for a number of years a certain hypothesis, the evolution-hypothesis, which it has seemed to me was well worth our consideration and philosophical criticism at this time. Not that I imagine that we are likely to find it essentially wrong, but possibly it ought itself to evolve a little. I know that it has been with us long enough to be rather commonplace and even in the minds of many among the thoughtful and well-informed to be regarded, or at least to seem to be regarded, as final, but after all is said it has not been with us long enough to *prove* to any thoroughly careful student of history that it is more than a passing phenomenon. There were evolutionists among the ancient Greeks and possibly they will some day be found to have been forerunners of Darwin not only in their advocacy of evolution but also in the passing of their point of view. Current science may resent this suggestion but philosophy has no choice but to make it. Moreover, if I be not very much mistaken, the evolution-hypothesis is already suffering, not from the perennial attacks of such as still believe in sudden creation and external design but from a rational and thoroughly enlightened skepticism. The limitations of evolution instead of its possibilities are occupying considerable attention, and questions of origin and even of destiny are not quite as absorbing as they used to be. But, to dismiss these possibly unpleasant insinuations, it is fairly safe to say that we are all pretty well in line with the times and disposed to call ourselves evolutionists, and some of us are even zealous evolutionists. Not that we all understand literally the same thing by the word, but we have a certain common standpoint from which we take our views of things. Thus, almost instinctively we use the historical method; we cannot admit to our serious thinking any slightest suggestion of an arbitrary causation or creation; on the whole we prefer Darwin to the Book of Genesis; we like to speak or hear and even to think of the community of living things. And yet—and here is seen the need of a philosophical criticism—although we are evolutionists, we are still,

most of us and perhaps all of us, entertaining with different measures of interest notions of our world that are not consistent with evolution. Evolution cannot possibly justify them as conclusions and so long as we hold them in our minds, however consciously or however vaguely, we fail to get the inner truth of evolution itself. An enthusiastic biologist recently said in the course of a discussion on a certain point that was outside of the recognised field of the biological sciences, that without any reasonable doubt evolution was true, but that as to the point in question such and such might be true and it might not, and whether it was or not did not seriously concern him "What blindness!" we have to exclaim at once, since even evolution is concerned with everything. And, when it does not concern itself with everything it can surely be only a passing phenomenon and ought to be criticised and must need evolving.

What, then, are the inconsistencies that have been referred to? To enumerate them completely would be idle. It would be impossible. Any enumeration is without limit; and, as dangerous in papers of this sort as in sermons, it is a sure mark of misunderstanding. One can as easily add another case of anything as count from two to three or from a million to a million and one. Accordingly, what we have to do is to get from but a few cases of current views that are inconsistent with evolution the condemning mark of them all. In point of fact any one case carefully examined would be enough. After the consideration of a few cases, however, a proper philosophical sensitiveness to consistency as a principle will possibly have been quickened within us and we shall have come so to understand the evolution-hypothesis that it will be transfigured and we may even hope to get from it, not a mere partial and phenomenalistic theory but a real insight into the character of the universe as a whole. And, parenthetically, if in what follows I take up for criticism things that in your opinion no evolutionist ever said anything about one way or the other and charge them to evolution, you have only to remember how strictly true it is that one cannot, that even a scientist cannot, speak of anything whatever however remote, without implicitly saying something about every-

thing and that the first duty of a philosophical criticism is to read between lines and discover just what is implied in the open assertions. This paper might have been entitled "The Fatal Implications of Evolution"; only upon one or two of the points referred to the scientists happen to have been quite explicit.

We begin by asking if evolutionists have any right to admit even the possibility of an inorganic lifeless matter. That evolutionists do admit this possibility is without question; and, to bring the case home, that our universities, without appearing in any quarter to feel that a contradiction is involved, give instruction both in an evolutionary biology and in a physical science which holds to an inorganic material substance is—what shall I say?—well, it is one of the intensely interesting phenomena of modern education. Darwin, in his *Origin of Species*, as if anxious to leave nothing out,—and is it not strange into what grim fate anxiety will always lead?—is ever at greatest pains to recognise both "the organic and the inorganic conditions of life," and his attitude is characteristic of his followers. Thus, the point of discussion with the biologist who was mentioned here only a moment ago was just this of the existence of an inorganic substance. But, to face the issue directly, how can life have inorganic conditions? The inorganic cannot but serve by its sheer negativity, by its strangeness or external nature and arbitrariness, as an insurmountable obstacle to any really evolutionary process in life. Grant an inorganic matter, a matter to which life is altogether foreign, and at sometime, never mind how long ago, there must have been a creative act, whereby the lifeless matter that was came to live, although to live a life in all important respects unnatural or not essential to it; and at every time, that is to say, whenever a living creature, whether a highly developed man or the primitive protoplasm, expresses an adjustment to its physical conditions, there must be repeated the miracle of creation, the miracle of abiogenesis. Some may prefer to speak of adjustment by chance instead of by miracle, as if chance were a safer term for science, miracle being left to creationism in religion; but for the creatures themselves that are involved the difference is zero. A world of miracles is a world of chance. Excuse the truism.

Herbert Spencer was logical or candid enough to couple with his metaphysical doctrine of an unknowable irrational something, as if an alien substance, underlying all existence, a biological doctrine of adjustment by chance or—and this is the same thing—by the blindly tentative activity of a lot of wholly random impulses. Random impulses and chance adjustment are the only hope of an organism with inorganic alien conditions to relate itself to. But, again to put the case and to put it somewhat differently, if matter is not living, if life is not *essential* to the physical, if the physical and the organic are not one and the same, if, in short, there really is a lifeless, inorganic realm, then life in the physical world must be a transitory thing, beginning at a certain time and ending at a certain time and for whatever time it abides—whether for a short time or for a long time does not matter—being altogether strange to the conditions environing it; and whence and whither will be the most natural interests of living creatures, where and how being too direct and too practical. Interesting indeed it is to see how the creatures that professing evolutionists tell us about, creatures that have been observed in nature or studied so carefully in laboratories, are made to live in their world but not of it,¹ very much like their contemporaries among men whose lives they somehow, by some curious movement in human thought, have been made to reproduce and even to parody. Perhaps science is meant to be dramatic and satirical; but, be that as it may, to return to our contention, a life whose adjustments in any degree depend on chance or miracle, a life that is transitory and strange, cannot evolve. You may be able to discover stages in its history and even to arrange these stages in what you are pleased to call an evolution-series, but in just so far as you admit to your universe a lifeless condition of life you will have to corrupt your evolution-series with fatal breaks or jumps; your Spencerianism or your Darwinianism, true to the spirit if not to the letter of the master, will certainly have to fear that creation-

¹ Creatures are made to live in their world but not of it, whenever their activity is regarded as the effect merely of some antecedent cause, or whenever it is treated as a reaction upon wholly external conditions, or whenever in any way it is subjected to an abstract or a partial explanation.

ism as a restless shade will return to view and ask for a decent burial.¹

But, secondly,—and you will quickly see that here is really no second and separate inconsistency of the current evolution but merely a slightly different view of the first,—how can the evolutionist think of development as taking place in the life of an organism or of a group of organic forms and at the same time assume that the environing conditions of the development remain fixed or if changing change independently of any relation to the developing life? You will, I believe, as your attention is called to the matter, find it a necessity of thought that the evolution of organic forms and the qualification of their environment proceed, as it were, hand in hand, or better, as if one were the right hand and the other the co-operating left hand, being contemporaneous and organically related phases of one movement. Under a consistent evolution, organism and environment must be the most perfect functions of each other. When, however, Darwin tells you of living creatures becoming “ever more and more improved in relation to their conditions,” and when you find the spirit of this formula permeating many of his paragraphs and infecting also the discourses of evolutionists generally, your thinking has a shock. And you wonder, to say the least, that a view so strange to thought can have held its own so long. Nor has biology been alone in the offence, for psychology has been guilty of a corresponding error in her effort to apply evolution to the process of knowledge or consciousness and at the same time to continue to treat the object of knowledge as a

¹ I might say here, but in a note, because it ought to go without saying, and because also I seem to myself to have said it already, that evolution should not and cannot be made a matter of mere so-called scientific observation. The microscope, however powerful, is still limited to the eye, and things seen are never final. There are other necessities of truth than those of objective perception. The truth or falsity of abiogenesis or spontaneous genesis must depend on something more than what experiment and observation can discover. Besides observation there is thought, and the two are literally functions of each other and are strictly responsible to each other. Thus the visible must be also thinkable before it can be said to be real. And that evolution in relation to a lifeless matter is not thinkable has been the burden of the recent paragraphs. Philosophy's call to science for consistency means in general that the thinkable as well as the discoverable must be taken into account. The thinkable is all that ever can be truly discovered.

fixed or at least relatively unchanging something that exists independently of the subject. But surely it is absurd to suppose that the conditions of life stand still as something in themselves established and only to be approached ever nearer by living creatures. On such terms evolution is made sheer perfectionism with all the hopelessness; and, as before, so here it is made dependent on the arbitrary or the miraculous. To be moving, however rapidly, towards a goal infinitely distant is not as a matter of progress appreciably better than to be once for all held in a state of absolute imperfection and so abjectly dependent on some agency from without to take you over the impassable chasm. Accordingly in the simple cause of consistency the evolutionist must dismiss from all chance of influence on his thinking not only the existence or possible existence of an inorganic matter but also the fixed environment and the infinitely remote goal of a perfected adjustment that goes with it.

Now is it not curious that science, while opposing the dogmatism and formalism and supernaturalism of religion, should have been so rash as to offer for a substitute a view of life that we are finding to be not one whit less deterministic? Surely, as was suspected by us before, science is given to satire. She has been able to do without the material of the old religious teaching, but the form, the attitude of mind, the underlying controlling principle she has retained, applying it to every minutest detail of nature; and her universally applied creationism is satire supreme. No wonder evolution and religion have been hostile to each other. Determination being on both sides, there had to be a conflict, and the conflict is our security for something better than either evolution or its opponent.

Of a piece with the perfectionism of evolution is the idea that evolution is away from something. Evolution, however, can be thought neither as toward something which as yet is not nor as away from—in the sense of literally and completely out of—something. Somebody picks up a clod of earth and exclaims: "You need not tell me that life can come out of that, that that can live." Another objects to the doctrine of man's evolution from the lower

animal. And a third fears to lose his soul under an evolutionary régime,—as if forsooth a thing worth keeping at all ever could be lost. But no one of these three would need to be so troubled in his mind if he would only recognise for himself that in reality evolution must be not of life out of clods nor of men out of animals nor of souls out of bodies, but of life *with* the conditioning clods and of men *with* the accompanying animals and of souls *with* the physical bodies. Do I need to repeat here that environment in general, in its qualities or values, in its character, is itself a result of evolution? It is as much a result of evolution as any of the evolved creatures related to it. Indeed the relation more than anything else is what evolves.

And perhaps my meaning will be made clearer if I suggest further that for a consistent evolutionist lower and higher as applied to contemporaneous existences are exceedingly dangerous terms. Matter and mind are often said to be lower and higher respectively; in fact they are regarded as lowest and highest; but the terms so applied are very misleading. Matter and mind are related contemporaries, and like all contemporaries are responsible for each other's character. They are conditions of each other. Each is, in fact, but an abstraction for something in the other. Letting these extremes go, however, we more naturally consider here certain very familiar intermediate stages or degrees. Thus the animals about man are not essentially lower than he; he is not higher; but he and they are the related and so mutually determining and mutually dependent aspects of one life. Man has within himself an animal nature and only in and through this can he ever freely express what he is; or, again, the human grows out of the animal but never outgrows it. Were the conditions of life really fixed, being somehow independent of life itself, and the goal of life consequently only approachable, a higher *separate* nature for man might be accredited; but also there could be no true evolution and that means no truly and substantially responsible activity. Not in escape from the lower, but in expression and realisation of it, can the higher consist. Even while at work upon this paper I have heard a discourse in which the development of man was strikingly and—at least in the

speaker's opinion—also optimistically described as from a condition in which man was one-tenth spiritual and nine-tenths physical to a condition—that of the present—in which he is nine-tenths spiritual and one-tenth physical, and this description, shorn of its mathematical precision, is quite in line with what evolutionists, even the most scientific of them, have been teaching more or less directly for a long time. We cannot help, however, being very grateful that even so small a physical part is still allowed us and we are likely, merely for the needs of our thinking, to face any danger of retrogression or of atavism or of anything as bad or worse and hope for a larger part in course of time. Yes, it would certainly be hard to find a more deceptive phrase than this, so often used, “the evolution of man,” in which the view, that has just been before us, is so quietly and confidently entertained. Only the whole to which man belongs evolves; or man evolves with the whole, not out of it. Parts, whether great or small, whether significant or insignificant, do not evolve away from each other.¹ And with this way of putting the case in hand we reach a difficulty among evolutionists that is of very special interest.

Thus, a third point of inconsistency—or is it a fourth? for I believe I had stopped counting—is in the prevailing view that evolution has of individuality. Although avowing the developmental view of life, it has generally persisted in treating life as a peculiar property or function resident in certain physical bodies, and in consequence the living individual has been very physically conceived, being determined primarily by spacial and temporal conditions. Rather has the thought been, or seemed to be, that an individual body as so much physical mass lives, than that life is a matter of

¹ The evolution of man, as if of a single part of nature, is an idea which quite within itself makes necessary the missing links in his own peculiar evolution-series. Only the evolution of the whole can be seen to be without breaks, to be perfectly and consistently continuous. Study the separate development of a part and you cannot but find sudden beginnings, repetitions, evidences of atavism, strange anticipations, arbitrarily persistent types, and sudden disappearances. On the other hand, study the development of the whole and not only will the series be continuous but also its very continuity and consistency will bring even the remotest past into the present, or, as the same truth, the present in its manifold of coexistences will be found to be a complete recapitulation of the series.

the universe as a single and indivisible whole ; being the activity in which the relation of a body to its surrounding conditions is expressed or maintained ; but life as a relation, or rather, to be more explicit, as that wherein relationship is actual and ever actualised, instead of life as an indwelling property, is indisputably a necessary doctrine of a consistent evolution. Did physical bodies live independently of any relationship, were relationship not a primary condition of life, such activities of living creatures as ever find expression would have to be creative of a relationship, being quite arbitrary or irresponsible reactions on environment, and through them plainly enough development or evolution could never take place. Or is it untrue and have we been deceived in presupposing that for real evolution activity must be originally and continuously responsible to its conditions? If we have been deceived, then an arbitrary creation was and the original miracle has been repeated with every change since, and you and I, as well as all other living creatures, are here and now confronted with an essentially alien world and the so-called social relation that any of us has to his fellows is the emptiest convention, being as external to the nature of us that live as is the sphere in which we happen to find ourselves living together. Alienate nature and you alienate human nature also ; and, although evolution has liked to declare that nature and man are one, the alienation is still quietly retained in a physical, life-endowed or occultly living individual.

In their view of individuality evolutionists seem to me to have offended, and they are probably likely to offend, more than in any of the other ways that have been indicated here. Simply the contradiction is less glaring. Still, in as much as a life-endowed individual logically suggests the perfectionism and the determinism and the dualism which have been considered above, it is superficial to make any invidious comparison. Even to repeat again, a body endowed with the peculiar property of life naturally, logically has a lifeless inorganic environment ; and, although some writers may get so far as to deny the existence of an inorganic matter, still if they hold to a life-endowed body they are admitting—by a dark way—the inorganic to their universe.

In the current psychology, which is not less hospitable to evolution than the other branches of science and which has been already referred to here as still recognising a fixed and independent object, this inconsistent view of the individual has shown itself with the assumption that consciousness, as well as life, is a property of individual bodies or that sensation, a special form of consciousness, is the indwelling property of certain distinct organs. Of course just this view of sensation has made necessary the assumption of a "higher" and wholly separate process or faculty, namely, thought,¹ in which the given material of the senses is unified, but the very necessity of such an assumption shows that evolution demands another view of both sensation and thought. For evolution, thought must be positively within sensation, not outside of it, original with it, not an outgrowth, and sensation accordingly must belong to the organic as such instead of being peculiar to any separate organ or to any separate group of organs. Sensation is local only as life is local or as any special functional process, like digestion or walking, is local. And as individual organs are not individually sensitive, so individual bodies are not conscious individually. In short, relationship, original and actual or substantial relationship, is as essential to consciousness as to life; and, to be at once brief and possibly almost practical, the mere consciousness of individuals is in itself the consciousness, the thinking of society. ✓

Some time ago I listened to a paper on "The Sixth Sense and other Senses," and the evidence was clear that the old-time limitation of sensation to certain familiar organs was breaking down. The conscious were coming to have dealings with the unconscious. But the writer, like so many who have interested themselves in the same field, got no farther than the recognition of an indefinite number of sense-organs; he was not enough of an evolutionist to escape the supposition that sensation instead of being an organic function is an indwelling property of the sense-organ. ✓

In political science the life-endowed individual, conscious to itself alone, is frequently referred to as a "social atom," a most ✓

¹ Or, more technically, apperception.

curious paradox of course ; but in biological science the evolutionist has been not less paradoxical in his efforts first to compose a group or species from his independently living¹ bodies and then to apply to the group the mutability that evolution requires. Any group of individuals, whose life is quite external to its conditions, to its environment, for the sake of unity and integrity must be of a strictly permanent mark or type, all the individuals in so far as members of the group having in common such and such essential characteristics and in so far as varieties possessing differences that are mere accidents to the group. The variety is thus quite outside of the group and it will in fact have to lead two distinct lives, one in the species and the other by itself as variety. Moreover a group will either persist in its peculiar nature or disappear absolutely. The case is the same exactly as under the nativistic or intuitionistic theory of morals, according to which the moral law must be literally the same for all, incapable of any variation whatsoever, any particular act or way of life being once for all determined as either wholly good or wholly bad, and all the many differences of experience being possibly of interest to prudence but having absolutely no bearing on duty. But evolution, in life generally as in morality, relies on change, on responsible, organic change. The greatest worth of the evolution-hypothesis consists in its allowance for adaptation to differences. Consequently we cannot allow even the suspicion of a separation of species and variety, of unity and difference. The Cambridge graduate, author of a fairly keen examination of Darwin's theory of the transmutation of species,² need not have been so surprised at finding Darwin so confused in his mind, or at least in his statement, as to just what species and variety really were and how they were related. In spite of his great idea and of his great work Darwin simply could not save himself from the confusion, because like so many of his followers he tried to think transmutation and evolution into what were, after all is

¹ Living independently both of each other and of their environment.

² *The Darwinian Theory of the Transmutation of Species, Examined by a Graduate of the University of Cambridge.* James Nisbet & Co. London. 1867.

said, only occultly, independently living creatures. A life-endowed individual means a fixed species, and *vice versa*; and Darwin's *Origin of Species* is filled with direct and indirect avowals of life as an indwelling endowment and so of individuality as apart from any active and differentiating relationships. Spontaneous genesis, for example, wholly dependent on the notion that some physical part of nature is what lives, is such an avowal; and natural selection also. Natural selection, for a life-endowed individual with reference to an inorganic alien environment is about as unnatural, as irrational, as arbitrary, as anything could possibly be. If biology only would openly and completely identify individuality, not with any mere physical part, but with an active function or relationship, variety and species would no longer seem opposed in any way and such doctrines as those of spontaneous genesis and natural selection would find out their own meaning.

In all likelihood, in spite of all that has been said, I shall be misunderstood here. I am very far indeed from trying to assist the Cambridge graduate or anybody else to restore the absolutely permanent species to the order of nature. I am certainly not trying to sweep back the waves of modern science. My effort is to criticise evolution, not to refute it; or, if to refute it, to refute it in the only legitimate and effective way, namely, by really accepting it and thinking it through to its very last conclusions. Evolutionists appear to have been wrong only in so far as they have not gone far enough, as they have not taken themselves seriously enough. They have not yet been able to cast aside the integument of older views. Let them but recognise fully and candidly that life is an affair of the universe as an organic whole, having neither an origin heretofore nor a destiny hereafter; let them abandon in all its forms their biological atomism; let them openly and once for all displace spontaneous genesis by life as original, and natural selection by natural expression, and individuals of space and time by individuals of organic relationship; let them do all these things and any others that consistency may exact; and, so soon as they have done all, philosophy—whose conceit must be pardoned—will smile upon them.

But somebody objects here and says that I am hopelessly be-

hind the times, that accredited evolutionists of to-day are really quite free from the bondage to which I am assigning them. Well, I am not so sure. Take, for example, their idea of species and the implied idea of the individual. Professor Farlow of Harvard, who is certainly no conservative, in his recent vice-president's address before the American Scientists, doubts "if any better definition [of species] has ever been invented" than this: "a perennial succession of like individuals."¹ True, Professor Farlow says also that "perennial" and "like" must be taken as very elastic terms, and he even concludes that the species, so defined, is only "an arbitrary and artificial creation to aid in classification of certain facts which have accumulated in the course of time," and recognises in addition that botanists, not to mention other naturalists, are giving up their special interest in origins and turning to "cytology, life-histories, and physiology"; but credible as this is, it is not enough. The philosopher cannot allow the scientist even the shadowy form of the old species. Surely, ghosts are not the proper inhabitants of an honest scientist's world. It is one of the dangers of science, as well as of man's life expressed in other directions, to assume that form and matter are two separable things. Form and matter, however, are one and inseparable, and where a form remains, whether it be only "an arbitrary and artificial creation to aid in classification," or some pedagogical or political or theological tradition, expect to find the substance that went with it remaining also. Who has ever been able to retain the letter without also retaining the spirit? In spite of the persistent Kantianism in modern thought, form and content are one. Moreover, with reference to the present view of species, whatever the avowals of evolutionists may be, they still hold almost if not quite unquestioningly to the notion of characters or qualities as temporary and as limited to par-

¹ See *Science* for Sept. 30, 1898: "The Conception of Species as Affected by Recent Investigations on Fungi" by W. G. Farlow. He says also that the conception of species is "much more flexible than it used to be," meaning, if I understand him, nothing more or at least hardly anything more than that the conception has a greater extension, a wider application, than it used to have. And again: "When a race becomes so constant that it no longer reverts and we cannot tell from what species it came, it is no longer a race but a species."

ticular forms, as when, for example, in referring to certain cases of plant-life Professor Farlow says that "sexuality is the rule in nature, but it should be remembered that it is not universal." Now to deny universality to any character is to fail to understand it and is besides, as chiefly concerning us now, implicitly to avow belief in the old immutable species and unrelated or specially endowed individual. And, furthermore, the evolutionists of the day are retaining the substance of the old inconsistent views in their habit of distinguishing so sharply between chemical and physiological and morphological properties, as when Le Dantec says in his *Evolution individuelle et hérédité*, a piece of work that is quite up to date and that is said by some to be very illuminating, that only chemical characters are hereditary. Why will the evolutionists persist in holding evolution back? Why won't they let evolution evolve?¹

Well, as a matter of course things are not quite as bad in science as I may seem to be making them. Out of the conditions of science to-day precipitation of a consistent evolution is all but inevitable; and the change should come soon, and the scientists themselves, however blind to their own tendencies—blindness being only another name for caution—should hardly be denied the credit for it. In evidence of what is coming, if I may use still another metaphor, the physical sciences and the biological sciences have already blown their bubbles to such a size and such a thinness that the catastrophe, so familiar to all children, seems bound to ensue. Biology, the science of life, has already admitted to its select company a Development-Mechanics and in many ways has made appeal to Physics and Chemistry, the two chief sciences of a lifeless matter; and physical science on its side, as if preparing for the appeal, has become so thoroughly mathematical that the rapidly vanishing

¹ Here, too, I may extract from between the lines of the above a further statement upon this matter of species. Evolution cannot possibly be free from the notion that the differences and the unity of a species are independent of each other, that the differences are external to the unity and the unity therefore naturally fixed or immutable or only supernaturally changeable, until she frees herself absolutely from any direct or indirect sanction of the inorganic. Immutable species, inorganic environment, and isolated unrelated individuals are only the three sides of what is an equilateral triangle.

spooks of elemental material atoms, occultly endowed with forces, are all that is left behind. No great change, no great shock can be needed to make physical science see that matter lives, and biological science that life is something more than an attached quality, being quite earthly and material; and with the vision, to say no more, the search for the ever minuter, ever escaping "vital unit" will cease, and with the "vital unit" will pass also all individuals, whether in Physics or in Chemistry, in Ethics or in Politics, whose claims to existence and recognition have consisted, first, in physical isolation, and, second, in spontaneous with the sense of arbitrary, suddenly originated activity.

But you will be accusing me of digressing. So let us abandon all attempt at prophecy and return for just a word or two more to our criticism. Criticism, indeed, is the only master of prophecy. In this paper so far I have touched directly only upon what seemed to me to be the fundamental inconsistencies of the current evolution,—which in certain cases were rather implied than overt. To have done more, to have considered any of the incidental doctrines, would have been idle. Besides I make no pretence to familiarity with all the details of the modern formulation of the evolution-hypothesis, my attention turning only to the basal assumptions about life, environment, individuality, and their relations. And yet I might venture to speak very briefly of one of the special controversies of more recent times, namely, the controversy about inheritance. At the risk of displaying my philosopher's ignorance I would suggest that *metaphysically* it makes absolutely no difference whether you hold that acquired characters are inherited, or that inheritance is through the transmission of certain vital, originally endowed units. In the former case you alienate the offspring from its environment by limiting it to conditions not its own, and the alienation means a dualism that evolution cannot honestly entertain; and, in the latter case, by adhering to the purely physical which is the dualistic or pluralistic view of the individual you make life itself virtually an acquired character. Whatever may be true for a scientist, a metaphysician cannot possibly think of life under conditions that limit it to certain narrow bounds of nature's phe-

nomena without also thinking of it as something that has come into being, that has at some time entered into that to which it is ascribed. To put the whole case somewhat differently, with such light as I have I cannot see that either the Neo-Lamarckians or the Neo-Darwinians get beyond a literal inheritance, that is to say, a transmission to the offspring of precisely what was in the parent, and it is very certain that literal inheritance, whether complete or only partial, whether only of a general character or of a special character, and evolution, which is so dependent on transmutation or adaptation or differentiation, cannot stand together. And, as for the germ-plasm doctrine of immortal units, this must come and go with the units themselves for the simple reason—it is simple, is it not?—that a unit is not what lives any more than a brain-cell is what thinks or than an atom or molecule or even a planet is what moves.

And now as I conclude you may wish to know more positively, more directly, just what changes a consistent evolution really makes in the current evolution. The chief changes, already mentioned, are three: final and unquestioning rejection of an inorganic matter, liberation complete and absolute from a fixed environment, and whole-hearted adoption of the organic in place of the physically isolated individual. But besides these changes in doctrine there are others in standpoint and method, which have a very practical value and ought to be mentioned. So, asking you to remember that in reality the current evolution is to be found wherever the historical method is used, I shall conclude this paper with a suggestion or two, being necessarily exceedingly brief and general.

If the foregoing criticism has any value, the present with its whole content rather than a dead past or an unborn future must be looked upon as the only true cause of activity. Why, there is no dead past, and there is no unborn future. Those strange questions of mere origin and mere destiny not only are losing their interest but also ought to lose it. The action of any creature, great or small, cannot be thought to be because something, which no longer is, was once, or because something, which not yet is, is to be some time, but only because something is now; or, otherwise put, the

✓ cause of action cannot be made external to action itself. For a
 ✓ *consistent* evolution the present, being all-containing, is all-sufficient.
 Nothing has been outgrown in the sense of left behind and nothing
 can be acquired, any agent's responsibility being always fully
 ✓ to what is and only to what is. No longer can we think of individuals
 in a dead past as culpable for not doing or as creditable for
 ✓ doing what only those who live now could ever even think of doing.
 In history, or in the more general evolution of life, the present was
 never the motive of the past, as so many would have it; the past
 ✓ never undertook to produce the present; and, accordingly, judgments
 should never be made on any such assumptions. Not the
 bygone past but what we might call the contemporary past, the
 ✓ past as a law recognised and heeded now, has made the present.
 This law *is* rather than *was*. Really I do not know which is the
 more serious offence, from the standpoint of a consistent evolution,
 for a biologist to suppose that an animal spontaneously reacts on
 an environment, as if the creature's past had somehow endowed it
 with a peculiar and irresponsible power over its present, or for a
 ✓ historian to treat particular men or particular nations as the creators
 of social or political changes, but certain it is that creation is
 not true history nor spontaneous reaction true evolution. For animals
 and for men, that is to say, for all animals, who really have
 quite enough to do to express the life in which at any moment they
 ✓ find themselves, the only effective past is the past that is a related
 part of the present.¹

And, strangely enough, both biologists and historians, without
 seeming to appreciate fully just what they have been doing, have
 ✓ for some time been bringing the effective past into the present.
 They have, for example, appealed to mechanical or physical law or
 to so-called natural conditions, which are obviously quite indifferent
 to any of the distinctions of time. Is it not John Fiske who
 would have the trade-winds share the discovery of America with
 ✓ Columbus? But the trade-winds are blowing very faithfully to-day.

¹ In an article, "Time as a Datum of History," in the current number of the *Philosophical Review*, I have tried to give a careful elaboration of the ideas in these concluding paragraphs.

The older history, the older evolution, is going to have a hard time when these mechanicalistic, naturalistic explanations have fully succeeded to the place of arbitrary acts as the sources of events, for then, with timeless laws to appeal to, the fiction of the past as an antecedent cause of the present will be once for all formally and materially dispelled. Under a consistent evolution, under a history true to its own presuppositions, the timeless laws of the present can be the only signs of a creative or effective past, and this simply because the past to which they point is a real part, a real phase, of the present.

Many object and say that to explain life mechanically or physically and history naturalistically is to deny vital spontaneity and human freedom, but exactly the reverse is the truth. Just for the sake of spontaneity and freedom it is necessary that creatures of the past should be seen to have lived, not lawlessly, but in the very laws to which the living are responsible, upon which the freedom of the living is established. Need I be truistic and say that life and freedom are affairs of the present, not of the past? With regard to such as have gone before we cannot but say, unless we would destroy our own foundations, our own hopes, rather that the law which still is was than that they were. The law of the past as the motive of the present or the necessity of the past as the opportunity of the present is perhaps as good a formula for a truly evolutionary development as can be given. Whatever else may be said of it, it certainly does away with the determinism that would make of the past an antecedent cause. Life is quite adequately supplied with responsibilities without being bound by any external conditions or determinations.

But it was suggested above that on the basis of our criticism neither the dead past nor the unreal or unborn future but only the present could be treated as a real cause of activity, and I have to say just a word of the relation of the future to the activity of us that live. Whatever controlling ideal the future has for us all must be here and now active among us. As has been said at least in substance if not in words more than once, "There is no opportunity like necessity; only what is can be." The future can be no inspir-

ing but distant dream ; a consistent evolution can know it only as
✓ a present living reality, present in the very conditions that are and
alive in whatever lives. The effective future, as well as the effective
past, is actually and concretely present. The past is perhaps
a the law, the necessity ; the future is the motive or impulse or freedom.

And here, as a last word, although I have no thought of interfering with anybody's theology, I cannot help saying, with a philosopher's license, that as evolution becomes honest enough to think of life and individuality as not inherent in separate physical bodies and of the future however remote as already alive in the present, a concept of immortality satisfactory at once to science and to faith will be all but laid open to us.

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EVOLUTION AND CONSCIOUSNESS.

EVOLUTION is now generally accepted by thinkers as the most scientific explanation of the processes of life in general; and whatever criticisms may apply to this or that phase of evolutionary belief, most of those whose abilities and training stamp any value upon their opinions regard Lamarck, Darwin, Wallace, Spencer, and some of their followers in scientific research as among the world's greatest discoverers and benefactors. Yet the details of the doctrine have not all been arranged, and all the accessible facts of experience have not yet been brought into harmony with the general conception. A great task still remains to be accomplished before the field is cleared of contradictions, many of which are our inheritance from past ages of thought in realms other than those of physical research. Theories are still held in metaphysics and philosophy, notably in psychology, which are irreconcilable with those derived from the observed facts of evolutionary science.

Confessedly one of the most important and difficult problems still unsettled is that of the origin, nature, and place of Consciousness. In using this term I am embarrassed by the difficulty due to the lack of precision with which it is employed. Perhaps the most comprehensive definition is: "The mind's knowledge of its own state or acts;" or, in the language of Hamilton, "Consciousness is the recognition by the mind or 'ego' of its acts and affections; in other words, the affirmation that certain modifications are known by me, and that these modifications are mine." Another definition is: "Immediate knowledge of any object whatever." Doubtless one word, *awareness*, will express the substance of these

definitions. I desire to use the word consciousness to signify that complex of qualities, activities, and relations which constitute the "ego," which make me myself and not another,—in a word, I mean by it the sense of Selfhood.

When it is asked, What is conscious? the answer is, I am conscious. But what am I? My body evidently is not myself, it cannot reason, love, hate, aspire, worship; I am—a Soul. Whence, then, came I? Concerning the origin of the body there is no question; but the mind, the soul, is, upon the whole, regarded in the light of a mysterious guest, for whose accommodation, some say, for whose imprisonment, say others, the body is provided.

I have neither occasion nor space to do more than merely glance at a few of the theories concerning the soul. The so-called Indian philosophy holds the "essential sameness of individual souls, emanating all alike from the ultimate spiritual essence 'as sparks issue from the fire,' and destined to return thither." According to the Vedānta, there is but one substance or reality, "ingenerable, immutable, incorruptible, eternal, and this is the supreme spirit. The individual soul is personal only in fictitious semblance, and is in truth impersonal, one with the undifferented self or Brahman." One of the grandest contributions of thought on this theme is doubtless that of Buddhism. It "denies that the word soul is anything more than a convenient expression, or that it has any counterpart in fact. Birth is not rebirth but new birth. Transmigration of soul becomes a transfer of karma. As one generation dies and gives way to another—the heir of the consequences of all its vices and all its virtues, the exact result of pre-existing causes—so each individual in the long chain of life inherits all of good or evil that all its predecessors have done or been, and takes up the struggle towards enlightenment precisely where they have left it. One lamp is lighted at another; the second flame differs from the first, to which it owes its existence. A seed grows into a tree and produces a seed from which arises another tree different from the first, though resulting from it." Plato represents Socrates in his last moments as saying: "If the dead came from the living, and not the living from the dead, the universe would ultimately be con-

sumed in death." He says: "What is recollected must be previously known. . . . Therefore, if ideals be not vain, our souls must have existed before birth, and will have continued existence after death."

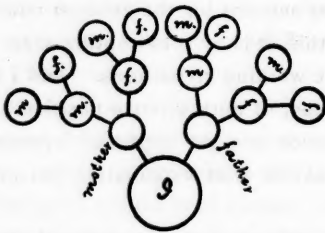
The so-called materialistic theory of the soul is, that it is the resultant of the sum of the physical activities, related to the organism as the rainbow is to the drops of water, and like it, ceasing to exist when the organism fails.

Now, it is evident that a true theory of Consciousness must harmonise with the physical facts of evolutionary science; and the materialistic view in its various phases is fraught with so many contradictions that it by no means offers an explanation of the progress of the race. But human progress is a fact which must be accounted for, and since mind or soul is the chief factor in this progress, a correct theory is of the first importance. That which I here offer I have ventured to call the Composite Consciousness.

It is not incumbent upon any theory to demonstrate its authority; all that is required to entitle it to a place in a scientific system is, that it shall best account for the greatest number of facts; if it succeed in doing this, it is by presumption true, and is entitled to rank as a scientific working hypothesis. And I need only remind the reader that many, of authoritative position in the world of science, regard evolution as a yet unproved hypothesis, who still accept the doctrine as the best explanation yet given of the world-process.

I said, above, "Concerning the origin of the body there is no question." I mean by this, of course, the individual organism with which we are at present acquainted. I make here no attempt to speculate concerning the possible evolution of the human form from those of lower rank. The individual is physically derived from his ancestors; without two previous organisms, the third is impossible. Thus each individual is, physically, a composite, as it were, of all who have preceded him. We have all seen composite photographs, the art of making which was recently discovered. A notable instance is that of Gladstone's Cabinet, which appeared in many of the leading magazines. It affords a good illustration of

my meaning. As in this picture a new face appears, presenting a union of the characteristics of all the faces, so combined and blended as to be like and yet unlike each, so each physical body is a meeting ground, or a focal point, for all the converging ancestral elements, unlike them all, yet having impressed upon it their principal characteristics. Thus traits of gesture, facial expression, gait, tones of voice, etc., are faithfully repeated from generation to generation. Further, it is well known that these physical traits are indicative of mental dispositions, so that many profess to read character by these external, physical signs. Red hair is popularly supposed to accompany a fiery temper; square jaws indicate firmness, thick lips sensuality, and so on. Thus it would appear reasonable to view the mind, the consciousness, that which constitutes personality, as also a composite, formed of all the ancestral personalities. In what other way shall we account for inherited genius, as, for example, in the case of Sebastian Bach and his descendants? My thought will be made perfectly clear by reference to the following simple diagram.



Let the lowest and largest circle stand for a given personality. Obviously its existence depends on that of the father and mother, and theirs in turn upon that of their progenitors, and so on. Now, to assume that the soul or mind is imported into the body, is to deny the well known fact that it is the mind that imparts its seal to the physical organism, rather than the reverse, is to deny the inheritance of mental idiosyncrasies, and to involve the whole subject in more and greater contradictions than confront us on this hypothesis.

One of the most striking confirmations of this theory is afforded

by the *memories* that haunt many people. I call them memories, but the term is not quite accurate, since these impressions usually lack the clearness of the ordinary memories of life. They are, rather, experiences that seem to float in a region just the other side of memory, and their subjects are tantalised in vain efforts to grasp their meaning. I remember reading, some years ago, an experience, the details of which I have unfortunately forgotten, but which was strikingly in point. It was that of a gentleman of Welsh descent, who, I believe, had never been in Wales. For years he had been haunted by the vague reminiscence of a tune, wild and strange, yet which he could not recollect ever having heard. One day, while crossing the ocean, he heard a company of Welsh sailors singing; he drew near, and at once recognised the air, which no one had ever sung to him, and yet which had been, in a dim, formless way, a part of his consciousness. It was an old Welsh melody, I think a battle song. A friend of mine, a gentleman of great intellectual abilities and highly educated, told me that he never saw the moon, very early in the morning, hanging low in a gray sky, without the feeling that, long, long ago, he had been present, under just such an aspect of sky and planet, at an event that decided the fate of nations. Another case, well known to me, is that of a person who, when a child, was so beset by dim reminiscencies of a former state of luxury and power, that he finally conceived the possibility of his having been born in such a condition, and adopted by those whom he called father and mother, and who by no means lived in affluence. He brooded over this fancy until, able to carry his secret no longer, he one day asked his mother if he was really her child. Her affirmative answer at once dispelled his little theory, but the dream remained, and still haunts him, though he is now a man in middle life. My friend assures me that he can at will recall a vision of a spacious apartment with what impress him as lordly and luxurious furnishings. It is dusk, no lamps or candles are lighted, and he sits there alone. To his right, against the wall, stands a lofty sideboard of some antique design, on which are ranged pieces of plate. In this vision, or reminiscence, or whatever it be, he feels himself the proprietor of

the seen and *felt* magnificence, or *the son of its proprietor*. He has only to make a want known to have it immediately ministered to by some attendant who waits in an adjoining apartment.

I relate this circumstance at some length, on account of what seems to me its scientific value as corroborative of the theory of consciousness here presented. For this gentleman, though never having, in his proper person, seen such an apartment, furnished in the manner described, and never having exercised the authority of which he felt himself possessed in the reminiscence, is actually a descendant of a long line of English nobles, and his tastes, although, as he tells me, he has never had the means to gratify them fully, are those which we are accustomed to associate with aristocracy.

I am, because my ancestors were; and I am what I am, because of what they were. Memories of the kind referred to seem to be *my* memories, because they are a part of *my* consciousness. If some forefather took part in a great battle, and if, according to the hypothesis, this strong impression is in a measure reproduced in his descendants, though only as a floating sentiment, what more natural than that I should conceive of myself as having been, in some mysterious manner an actor in affairs which in no way concern my present existence? That *all* the experience, all the mental life, of my ancestors is not represented in my consciousness may be explained by *cancellation*, by the stronger overlying or obliterating the weaker, by something akin to chemical attraction and repulsion. Obviously, only the master impressions can survive as memories, more or less distinct, while the rest have entered into the warp and woof of personality, manifesting themselves as habits, tendencies, acts, judgments, modes of thought, points of view unconsciously ruling the life.

The theory of the composite consciousness accounts for the growth of the race in civilisation and power. It explains how man can benefit by the gains of the past. This is exactly expressed in the Buddhistic statement that "Each individual in the long chain of life inherits all of good or evil that all its predecessors have done or been, and takes up the struggle towards enlightenment precisely

where they have left it. One lamp is lighted at another." There is undoubtedly such a thing as a Race Memory due to other sources than the mere repetition by father to son of old legends, such as those relating to ancient *habitats* and migrations, and striking national or tribal vicissitudes. This is explicable on no other basis. The solidarity of the race becomes intelligible from this point of view, and the doctrine of evolution gains new breadth and beauty.

It is noteworthy that glimpses of this insight mark several of the theories of the soul that have gained the acceptance of large numbers of men. It is as though the Soul were, so to speak, half conscious of the real method of her earthly pilgrimage. A dim apprehension of this truth lurks at the bottom of Comte's philosophy, which asserts, in lieu of individual immortality, the immortality of the race, a thought-immortality, toward which each individual contributes his share.

The only philosophical objection to this theory of consciousness which, to my mind, deserves serious notice is the asserted *simplicity* of the mind or soul. The old view was that the mind was a group of faculties of which one might be active, while the others were quiescent. Where we use the general term intellect, our forefathers spoke of "intellects." But now the mind is viewed as a unit. When we will, the whole mind wills; when we remember, the whole mind remembers.

But recent studies in psychology have taught us that, while the old conception is untenable, the newer one is far from being correct. The mind is not a unit in the sense which many hold. As Dr. Carus says in *The Monist* (January, 1897): "The unity of the soul has ceased to be a monad, an atomistic unity, and is recognised as a unification. The personality of a man is a peculiar idiosyncrasy of psychic forms, a system of sensations, impulses, and motor ideas, but it is not a monad, not a distinct entity, not a separate unit. In a word, there is no soul-entity, or soul-substance, or soul-substratum, that is possessed of sensations, impulses, and motor ideas; but all the sensations, impulses, and motor ideas of a man are themselves part and parcel of his soul. Mr. Hegeler expresses it by saying: 'I have not ideas, but I am ideas.'" Buddha

taught, as quoted by Dr. Carus in the number of *The Monist* referred to, that "Compounds have no existence outside their parts, and man, like other things, animals, plants, chariots, worlds, etc. is a compound. Self denotes the whole man."

Such men as Ribot and Binet have abundantly demonstrated the fact that consciousness is not a unitary phenomenon, but an affair of astonishingly complex nature. It is well known that aberrations of the physical personality, or the sense of physical sameness are often met with. The patient believes that he has lost a limb, or that he is made of glass, or that some other extraordinary change has taken place in his physical organism. Ribot says (*The Diseases of Personality*): "Some subjects assert that they no longer have teeth, mouth, stomach, intestines, brain: which can only be explained by a suppression or alteration of the internal sensations that exist in the normal state and contribute to constitute the notion of the physical ego." M. Ribot also mentions a form of hallucination in which the patient insists that "he has no body at all,—he is dead." "The physician Baudelocque, during the last period of his life, lost all consciousness of the existence of his body: he maintained he no longer possessed head, arms, etc."

No one disputes the complex nature of the physical organism, but the conscious "ego" is also liable to experiences or states wholly inexplicable on any other theory than that of composite consciousness. For example, there is the famous case, related by M. Ribot in the work above referred to, of a soldier who had been seriously wounded at the battle of Austerlitz. "When asked about his condition, he would reply: 'You want to know how old Lambert is? He is dead; he was carried off by a cannon ball. What you see here is not he, but a poor machine that they have made, in imitation of him; you ought to ask them to make another.' In speaking of himself, he never said 'I,' but 'that thing.'"

Here was not only the loss of the sense of physical identity, but also that of the true "self-identity." Indeed, cases are on record which prove conclusively that the personality is made up of a great number of unstable elements. At any moment a person may cease to be "himself," and become another. One of the most re-

markable cases of this kind which has come under my notice, is that of Mary Reynolds, as related in a booklet entitled *The Watseka Wonder*. The account is republished from *Harper's Magazine* for May, 1860. I refer my readers to it, as it is too long to introduce here. Another case, quoted by Ribot from Billod, is that of a lunatic in the asylum at Vanves, who, "every eighteen months about, would let his beard grow and present himself, altered in dress and manners, to the whole house as a lieutenant of artillery, named Nabon, recently arrived from Africa, to act as a substitute for his brother. He would say, that before leaving, his brother had given him all the requisite information about every one; and at his arrival he would ask and obtain the honor of being introduced to each person. The patient would then remain for several months in a state of marked exaltation, adapting his whole conduct to his new individuality. At the expiration of a certain time he would announce the return of his brother, who, as he said, was in the village and would come to replace him. Whereupon he would have his beard shaved off, change his dress and manner, and resume his real name. But he would then exhibit a marked expression of melancholy, walking along slowly, silent, and alone, usually reading the *Imitation of Jesus Christ* or the *Fathers of the Church*. In this mental state—a lucid one, perhaps, but one that I am far from considering normal—he would remain until the return of the imaginary Lieutenant Nabon."

M. Ribot also relates (*The Diseases of Personality*, p. 72) a most interesting and instructive case, that of a young man who successively exhibited six different states of consciousness. The narrative is much too long to insert here.

At the risk of making this paper appear but a series of quotations, I must employ the language of Professor Ribot when he says (*The Diseases of Personality*, p. 69): "Our ego at different epochs is very different: according to age, the various duties and events of life, and the excitations of the moment, certain complexes of ideas, at a given moment representing the ego, are more strongly developed than the others and take the first place. We become another and are yet the same. My ego as a physician, as a scien-

tist, my sensual ego, my moral ego, etc., that is, the complexes of ideas, inclinations, and directions of the will designated by these terms, may at a given moment enter into mutual combat and repel each other. The consequence of this state of things would be, not only inconsistency and division of thought and will, but also a complete absence of energy for each of these isolated phases of the ego, if in all these spheres there was not a more or less clear repetition for consciousness of some of these fundamental directions. The orator, master of his words, who while speaking is his own critic, the actor watching himself play, the psychologist studying himself, are additional examples of this normal division of the ego."

Thus we see that the theory commonly held at present—which regards the mind as a unit—must be abandoned as no longer scientific, in view of the facts presented above.

But another objection remains to be noticed, which, though not perhaps deserving the rank of scientific, yet will be urged by many on religious grounds. It will be said: Wherein does the theory of Composite Consciousness differ from that of materialism, which holds that the soul is the mere resultant of the activities of the physical organism, and that when these activities cease the manifestation called "soul" must necessarily cease also? What becomes of the doctrine of immortality to which the great majority of the race cling with such tenacity? Does not the Scripture say that "God breathed into man's nostrils the breath of life; and man became a living soul"? Surely, what was "breathed into" the organism was not the product of that organism's interactions!

To my mind the theory here maintained is as far from being "materialistic" in the sense intended by this objection as materialism is from spiritualism. But it serves, as no other theory with which I am acquainted can, to harmonise the undoubted facts which form the basis of the materialistic view, with the facts, equally undoubted, which are at the foundation of the opposite theory of life.

The bane of specialism is the tendency to fix the attention upon facts in the special field of investigation, to the exclusion of

facts whose existence is fully demonstrated in other regions of research. The votaries of physical science often arrogate the name science to the results of their favorite labors, forgetful of the rights of others who seek reality from other points of view. Science means nothing but classified knowledge; and a system of classified facts in regard to ideas is as truly science, as classified facts in regard to rocks, or bones, or gases. Observed facts of mind cannot contradict observed facts of therapeutics; mathematics is as truly a science as mechanics,—indeed, without the former the latter is impossible. The criterion of truth is that it never contradicts itself. When two “sciences” are in any degree contradictory, either the supposed facts are not facts, or they have been wrongly interpreted.

It will be disputed by no one that, whatever the differences between any two given personalities, all men are under the sway of fixed mental laws; no experience to which man is subject can abrogate their decrees. Truth never changes to Falsehood. The intuitions are always the incorruptible court of final appeal. On the axioms of mind is erected that purely ideal science called *par excellence* an exact science, mathematics, to whose laws the coarsest and clumsiest of material structures as well as the most abstract systems of thought must conform. These laws are the same for all times and for all classes of minds. Ten thousand men in Athens in the days of Pericles was not a larger or smaller number than ten thousand men in Boston in the year 1897. Edison, with all his genius, the crown and glory of evolution in the field of invention, cannot force an electrical discharge of two thousand volts from an instrument whose resistance is only equal to one thousand. And it is to be noted that when a “philosopher” seeks to deny the validity and universality of the intuition, he does so by endeavoring to appeal to some universal and unquestionable standard of truth!

All men know, then, whether they have consciously separated this knowledge into its formal elements or not, that a thing and its contradictory cannot both be true; all men, likewise, believe in, or hope for, or *think about*, Immortality, the existence of a Supreme

Being; all races have Religion, in support of which they are willing, if need arise, to forego all merely material, transient gains.

These beliefs, then, are proofs of a Consciousness common to the race; in other words, they inhere in what may be called the Race Personality. They are beyond experience, yet are the standards by which experience is tested and its validity determined. Does not this point to the fact that the life of man is a manifestation of the Eternal Reason, that Life which was in the beginning, is now and ever shall be—that man's true ancestry is Divine? We are the sons of our fathers and mothers; was the Apostle John guilty of an unscientific statement when he declared: "Now are we the Sons of God?" For progress is impossible, for the individual or the race, without a norm of experience, an unvarying standard by reference to which all the facts of experience are classified and duly related, so that life is not a mere chaos of discordant happenings. This norm cannot be the result of experience any more than the axiom can be the result of mathematical practice; it must precede the conscious experience as the soil must precede the plant which it nourishes.

The problem of self-consciousness as distinguished from that deeper consciousness shared by all the race, receives new light from the foregoing considerations. Jean Paul somewhere speaks of the moment when, as a child, standing near his father's wood-pile, the revelation suddenly flashed upon him, "I am an I!" Heretofore, without self-consciousness, he had shared in the universal life; but now the experiences of his few years, like volcanic tendencies silently gathering force beneath the surface, in one instant thrust up the little island of "self" from the depths of being, and henceforth he goes his way conscious of a Personality which differentiates him from all others. It would be instructive to gather data concerning the birth of the self-idea in young children, but unfortunately all are not wonderful geniuses like Jean Paul. Doubtless with most of us the self-consciousness steals upon us as dawn steals upon the earth,—there is no precise moment when we can say, Now it is day.

Man arrives at self-consciousness through the reaction of the

external world, and thus conceives of himself as finite by contrast with his consciousness of the *All*, the Infinite. Thus man carries within himself the polar opposites of being. He can reason to the infinite only from his consciousness of the finite, and to the finite only from his consciousness of the Infinite. Another fact, authenticated by countless instances, possesses the greatest corroborative value in this connexion: In the great crises of life when the whole attention is given to an instant experience either of overwhelming danger, grief, or joy, one does not watch himself, he is unconscious of himself. Familiar illustrations of this truth are afforded by soldiers in battle, unaware of their wounds; by ordinarily feeble women performing miracles of strength and daring in the effort to defend or rescue their children from great peril; by the orator, rising, in some tremendous emergency, above the plane where, according to M. Ribot in the language quoted above, he is "master of his words and while speaking is his own critic," but rather is mastered by his ideas, and, in an exaltation akin to prophetic frenzy, identifies himself with the substance of his message, or, in the terminology of so-called Occultism, "*becomes it*,"—these and many other instances which could be given prove that indeed the personal consciousness is but a bubble floating on the tide of Being, and liable, at any moment of strong emotion, to be swept into nothingness. I cannot here forbear to allude to the well-known fact that in great popular uprisings large bodies of men "lose themselves" and become animated by a common impulse, so that a thousand persons, any one of whom is a comparatively insignificant force, united by a common idea and purpose, become a terrible Energy, resistless as an avalanche, drawing their power from the common source, Omnipotent Being.

The Race Consciousness, then, is an undoubted fact,—at bottom, and only awaiting some impulse which shall seize, not a thousand men nor a million, but all the dwellers on the planet, One Consciousness for all men, swallowing up the partial sense of selfhood as the ocean swallows up the wave. This is the basis of a true science of Sociology. I cannot afford to injure another, for in so doing I am injuring myself. I am bound to help all others, for

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I am thus helping myself. And when this conception becomes general, evolution will receive a mighty impulse, and its fruits shall appear from seeds that have been planted long ago,—how long, who can tell?—in the deep soil of Consciousness.

No one, then, need fear for the doctrine of Immortality, since man is a manifestation of the Endless Life. As to the manner of immortality, of course we cannot now know; but if Evolution, which is the method of the Divine procedure, has brought us thus far on the road, we surely shall not be so illogical as to fear that in the future we shall have or be less than at present! If, indeed, the protoplasm evolved into Man, shall man dread lest evolution shall at last render him inferior to the protoplasm! No; if the deep instincts of the race deceive us, if the intuitions, if the axioms by virtue of which only we say that *we know*, delude us, how dare we trust that we have discovered any abiding principles to guide even our little daily personal lives? How dare we say of any system of induction or deduction, This is Science? The world, then, is not an orderly evolution, but a chaos, rushing in a mighty storm to endless night. Nay, the night has already fallen, and we are but spectres, groping among the fantastic apparitions of a baseless Dream!

In closing, let me advert to the theory which holds that the physical environment reacts upon man, so that geographical, climatic, and other variations tend to produce general race characteristics,—variations in temperament and faculty. Dwellers by the sea and dwellers in the desert present totally different features to the study of the ethnologist. Mountaineers and inhabitants of the plain; denizens of the tropics and those who support life amid polar snows; the cultivated products of European and American society and the wretched creatures who freeze and starve in Terra del Fuego; Gladstone and the African pigmy, represent types almost as divergent as those afforded by animals of different species. Do we not in these facts find a hint, in strict scientific accordance with the doctrine of Evolution, that the material universe is also possessed of something, not "Consciousness" in the ordinary acceptance of the term, perhaps, but at least a dim sort of psychic life,

the same in kind, though infinitely less in degree, as that of brute and man? One of the great philosophies of the Orient teaches that the same life resides in the ant and in the angel; and the poets, as, for instance, George Herbert, who says: "Man is in little all the sphere," and Tennyson, who sings:

"Flower in the crannied wall,
I pluck you out of the crannies,—
Hold you here in my hand, root and all,
Little flower. But if I could understand
What you are, root and all and all in all,
I should know what God and man is,"

—these who represent the deepest insight into nature and life, are full of the thought that the universe is not cold and dead, but is, with man, a sign and symbol of the Life Eternal. And the language of St. Paul is seen to be but a scientific utterance when he says: "The earnest expectation of the creation waiteth for the revealing of the sons of God. For the creation was subjected to vanity, not of its own will, but by reason of him who subjected it, in hope that the creation itself also shall be delivered from the bondage of corruption into the liberty of the glory of the children of God."

Already, at the touch of inventive skill, many a casket of apparently gross matter has been opened to liberate a mighty genie who evermore assists the upward progress of man. It is as though the veriest clod or jagged rock or floating cloud bore within its bosom a sleeping soul ready to awake to consciousness at the call of Mind,—as though many a Beast were awaiting the kiss of beautiful Intellect to arise, with the grace and dignity of a prince, clad in royal robes.

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A FEW HINTS ON THE TREATMENT OF CHILDREN.

DON'T SAY DON'T.

THERE are two interpretations of the doctrine of the Fall and the scheme of salvation that was held among the school men of mediæval Christianity. One regards the fall of man as a break in God's plan, while the other one represents the view that it was God's intention to let man pass through sin to salvation; for without sin man would never have acquired the knowledge of good and evil, which forms the climax of his similarity to God. Adherents of the former view belonged to the school of Nominalists while the latter showed an inclination toward Realism. The former regarded our present world as one particular anomalous accident, and would at the same time insist on the dogma of the cosmo-centricity of the earth, which means that the earth is the stage on which alone God became flesh and revealed himself in Christ. All the other planets, the sun and the moon, and all the fixed stars, exist simply for the sake of the earth as lights that might serve to make time-measurements for human purposes; and on earth man was created to be tempted, and when he had fallen God would set all the armies of angels in motion and come down upon earth himself to redeem him from perdition. This is the view of those who regard every experience of theirs as a particular case, and who see in universals no truly universal features but mere "names" (in Latin *nomina*), a definition from which the name "nominalism" has been derived. Their adversaries, the Realists, were inclined to look upon every particular case as an instance of universal law, and thus

they were inclined to regard man's fall not as an accident, but as a necessity. They argued that man fell because God wanted him to fall. And how could the good tidings of the God-man have been possible if man had not to rise from a lower state to a higher, if he had been and remained from the beginning perfect and without sin? How could there have been any worth in his character if he simply were good because he was created good? No, man had to work out his salvation for himself, he had to establish his own good character, and that feature in man which accomplished his salvation is God himself! Thus, according to the philosophy of the realists, the earth would be a typical case for any possible world on which life develops, and the consistent conclusion would be to say that the same events naturally and necessarily take place in other worlds. On all of them we should find sinners, on all of them error and evil, yet at the same time on all of them God would appear in the flesh and would teach men that self-sacrificing love is the way of salvation. And further, what would Christ or Saviour mean but an actualisation of this self-sacrificing love?

Whatever these two schools may portend, this much is sure: when, according to the legend told in the first chapter of Genesis, the Lord put the man he had created in the Garden of Eden, and said to him with regard to the tree of the knowledge of good and evil, "Thou shalt not eat of it," the man, as soon as left at liberty to do as he pleased, would not and could not fail to disobey the command.

As the story stands God must have had the intention to make man fall. Otherwise the Ophites, the Syrian Gnostics who believed in the divinity of the serpent, would have been right when they declared that Jahveh was an inferior God, who, himself a slave of passions, like wrath, jealousy, vengeance, etc., wanted to keep man ignorant. The highest God, however, the God of love, mercy, and wisdom, sent the serpent as the first messenger of the gnosis to aspire for knowledge and prepare mankind for the arrival of Christ.

If you have a child whom you want to perform a certain act on its own accord, but not at your request, you need only tell him "Do not do it," and he will be sure to do it. You may by force or

by fear prevent a boy from being disobedient, but you cannot prevent him from feeling the itching in his fingers to do what is forbidden. All the various injunctions so freely given to children are so many temptations to become disobedient.

A little party of children had thrown several boxes of blocks down stairs, which would have given the nurse a good deal of trouble to pick up. They enjoyed the joke greatly, but when a waggish uncle told them that for a punishment the blocks should remain down stairs and that no one should be allowed to bring them up again, the little urchins started at once to carry every block up, and the joy of being disobedient beamed in their eyes.

Hence the lesson, Don't say "don't" to your children. Do not forbid. Do not lead them into the temptation to become disobedient; in other words, respect their liberty and allow them to act foolishly, if they prefer to do so at their own risk.

But the objection may be made: "Children must be educated, and education consists precisely in teaching them what not to do." That is quite true. But the method of teaching them what they should not do ought not to consist in interdictions.

If you do not want the baby to walk down stairs because he will hurt himself and is liable to fall, let him try, and let him by his own experience find that he runs a risk when going down. Tell him he will fall, but do not forbid him: Don't say "don't." When approaching the stairs for the first time, watch over him so that he does not do himself serious harm, but let him experience the fear of falling, and warn him that he will hurt himself. If he disregards the warning, it is better for him to be sufficiently frightened by a fall to remember it.

If a child approaches the stove or the fire-place, warn him in the same way; tell him "hot," "hot," and if the child does not mind, let him burn himself a little. The nurse's business is simply to see to it that he does not meet with a serious accident, not to hinder him from making unpleasant but valuable experiences. You will find that children who are informed about the evil consequences of certain actions will mind the warning much better than the children who are forbidden to eat an apple for no reason what-

ever. That apple will appear "pleasant to the sight and good for food," more so than any other fruit that may be around.

When children want more sweetmeats, more strawberry short-cake, or more ice cream than is good for them, give them a fair warning. Tell them, "I should like to eat more of it myself, but I believe I shall ruin my stomach and be sick if I do; therefore I don't." If the children are strong enough and can stand a disordered stomach, it may be advisable to let them once or twice take more and let them find out themselves what an abused stomach means. But when a child falls sick and when its stomach revolts, the best plan is to sit by his bedside and help him pass in review all the things he has eaten on the previous day, and then to say to him without reproach: "I believe you ate too much ice cream," or whatever it may have been, "and I would not eat so much again. It is unpleasant to be sick, and it is after all the same taste whether you eat one or two dishes."

Sickness is a good teacher of self-control in eating, but parents must improve on the occasion and help the child to discover the cause of its indisposition.

You cannot educate children by punishments; you must make them, so far as possible, feel the evil results of their actions, and the insight into the causation of good and evil will exercise a better and more educational influence than the fear of the rod or the sting of bitter reproaches.

The child will be an echo of your behavior. Scolding makes him a scold, and severity renders him resentful.

THE TREATMENT OF A BAD BOY.

There is a peculiar difficulty in treating children when they become naughty. They scream, they howl, and become obstinate to all moralising. Their bad temper becomes part of themselves, and to relent naturally appears to them a self-surrender.

What is to be done in such a case? Shall educators break the will of the child as is often proposed, or shall they yield and let him have his will? Neither seems to be practical, for, on the one hand, instead of breaking the will we ought to strengthen it,

and, on the other hand, instead of yielding to his will, we ought to lead it and direct it in its tendencies. Will in itself is neither good nor bad; and strength of will is rather a virtue than a vice, but the goodness of a will depends on the aim toward which it tends.

A child's soul, accordingly should be treated as what it naturally is, a living commonwealth of various and frequently contradictory tendencies. And in doing so, it is advisable to identify those tendencies that are to be cherished and strengthened with the child's self, but to brand those which we wish to remove as foreign elements that are to be discarded. They are like the injurious offshoots of fruit trees which have to be pruned. If the naughtiness of the child be treated as something that he is possessed of, as a mental poison that he has to expel from his mental system, as demons and devils such as Jesus cast out according to the Gospel stories: educators will far more easily regain the good-will of their little rebel if they allow him to capitulate without suffering a humiliation.

Here a combination of two principles appears to be of advantage: first, the diverting of the attention of the child from the cause that produced his ill behavior, and secondly, the personifying his rudeness with a bad boy that has entered his little self. Address the child, saying: "There is a bad little boy in you, come quick, let us cast him out." And then begin a chase after the imagined bad boy the pursuit will give joy to the child who will soon understand the joke and with shining eyes delightedly help to expel the little devil whom he learns to consider as the cause of his bad behavior.

Afterwards he will learn no longer to admit the bad boy, but to expel him before he is able to do any mischief. At any rate he will be able to distinguish between himself and the evil that might originate in him, and will thus preserve his self-esteem and there will be no need of breaking his will in the interest of good behavior.

The methods of casting out bad boys may be changed as physicians may employ various medicines for attaining the same effect. Sometimes it is advisable to pull out the bad boy as the

dentist might pull a tooth, which may be done with a corkscrew after the manner of uncorking a bottle. Another practical method which can be highly recommended is the employment of pincers. The little fellow must open his mouth for inspection, for the bad boy is supposed to sit inside, in the place whence the shrieks proceed. The opening of the mouth will of course stop further crying, and now you can give some information about the little shrieking imp inside who must be caught with the pincers. "Keep still," you tell the child, "I'll catch him with the pincers and take him out; and then you will be our good boy again!" From a quite varied experience in these experiments, I found that the method works well and the child enters into this theatrical performance of a modernised exorcism with great readiness. He accustoms himself to speak of the prior naughtiness as something foreign to his better self and will easily understand the desirability of ridding himself of bad and unworthy qualities, of anger, malevolence, envy, and other passions or vices.

A similar method is applicable when children, as they frequently will do, hurt themselves and begin to cry. If the pain is not serious and will pass away as soon as their attention is called to something else, a good plan is to post them at one end of the hall, or at one corner of the table, fasten the pain with fictitious nails to the spot where they stand and then bid them run away. In speeding along the hall or running round the table, they will quickly overcome their trouble. The activity of running works up an increased circulation and it will not be long before they forget their pain.

Under no circumstances does it seem advisable to pity children or to join in their complaints, even though they may be justified. Commiseration makes a child dissatisfied and you can bring the happiest child to tears simply by pitying it for anything, however ridiculous your compassion may be.

Do not show anxiety, for thereby you make the child anxious; do not show any worry about his bad habits, for thus he will be worried himself and you weaken his character. Show a simple and straightforward determination to help the child to discard what

is undesirable in the makeup of his soul, and the child will naturally acquire a habit of ridding himself of the petty vices of childhood before they can harden into habits.

All these methods can be intensified by a review of the past in calm hours. The father and the mother must be the child's most intimate friends and counselors; they ought to tell him when they are alone with him, what they themselves think of this or that naughtiness; what other people think of it; what will be the consequences; ask him how he would like the same behavior in others; and finally tell him how to mend the fault and how to avoid it in the future. There should be no scolding at such a moment, for that would disturb the calmness of the child's mind. In order to render this instruction effective, not for the moment only, but for the child's whole life, it should be a lesson of self-contemplation and a calm self-criticism.

When the child grows older, he should gradually acquire the habit of exercising this self-criticism for himself; and here it is advisable to call the child's early attention to the dangers of vanity.

STIMULATE SELF-CRITICISM.

While strength of will is a virtue, vanity is a vice. Vanity is the most dangerous demon that can take hold of us, for vanity renders self-criticism impossible.

Every child will be able to grasp the importance and paramount usefulness of self-criticism. Only tell him the story of a man who always blamed others when he did some foolish thing, and who, adhering to the belief in his own perfection, remained a fool all his lifetime. He gathered a rich store of bad experiences and came finally to the conclusion that the whole world was wrong, —but the world thought all the while there was something wrong with him. On the other hand, illustrate by the examples of great men, that great successes are never gained without a stern self-criticism. Self-complacency may create a very happy disposition, but this happiness will not be auspicious; it will be the happiness of lucky Hans who joyfully exchanges his gold for a horse, his horse for a cow, his cow for a pig, his pig for a goose, his goose for

a grindstone, and when the grindstone drops into a well, glories in his having so fortunately got rid of his burden. The way to success in life is the very opposite to self-complacency and is incompatible with vanity. When the foolish man complains about the wrongs of others, the wise man, whenever ill fate befalls him, inquires first into the origin of his own mistakes. So, for instance, when he is cheated, he does not glory in his own honesty and blame the rascal who cheated him, but blames his own credulity and his lack of experience not to have seen through the schemes by which he has been caught.

Remember that the net in which most people are caught is their own vanity. La Fontaine tells the instructive fable of the raven and the fox and adds that the raven, seeing his own foolishness, vowed that he would never be caught again; but the probability is that a vain fellow would not have blamed himself; he would have scolded about the untrustworthiness of people and the frauds of foxes, but would have again fallen an easy prey to the next flatterer who approached him in the same manner.

What appears to us a misfortune is frequently the result of a bad quality in our character. Gamblers are in the habit of catching their victims by first giving them a chance to cheat; tricky agents make you believe that they sell underprice; dishonest lawyers give you a chance to make a contract in which you believe that you cheat some one else, while in fact you are being cheated.

Think of the victims of Reynard the Fox. He knows the foibles of the messengers sent to him and ensnares them in their own vices. The cat is caught by his preference for mice, the wolf by his greed, the bear by his love of honey. None of them blames himself, but all denounce the fox's villainy.

Considering the truth that our own petty vices are the greatest dangers of our life, we must early teach children to regard them as foreign elements which they should cast off, and must help our youngsters to overcome them with grace and in good humor. Genuine manliness is not possible without self-criticism and is built upon a rigorous self-discipline.

DO NOT PUNISH.

Since the days of barbarism a constant change in the treatment of punishment has been going on in civilised countries. The old method was a system of retaliation. Punishment is revenge. The new method which replaces punishment by correction may be called, briefly, a system of education. The turning point in the evolutionary curve of mankind is of a religious nature. It appears first as goodwill toward all, the good and the bad alike, and in the history of the East in Buddha's teaching, it is based on the consideration that all creatures, good and evil ones, are the product of circumstances, and that therefore the bad deserve compassion, not hatred. If a man's character is conditioned by his past, by the circumstances under which he was developed, there is no longer any sense in expecting that he should act differently from what he does according to his nature. Every creature is as its own life history, since the beginning of life on earth, has formed it; and as it is, so it will act. There is no cause for becoming excited about criminal actions. We must understand them, we must above all investigate their motives, and must treat them in the same way as a physician treats a disease. That society, or the government, or the judge, should commit a crime on the criminal because the criminal has committed a crime on society, is as ridiculous as it would be to inflict upon the stomach a stomach-ache because by its indigestion it has produced a head-ache or otherwise injured the fellow-limbs of its organism. Retaliation is a continuation of moral disease, not a cure, and what we need is a cure. Taking this ground, Buddha abolished in the realm of religion the idea of hatred and revenge by saying that hatred is not appeased by hatred. Hatred ceases by non-hatred only. And in the same spirit Christ taught in the Sermon on the Mount (Matt. v. 38-39), saying:

"Ye have heard that it hath been said, An eye for an eye, and a tooth for a tooth: But I say unto you, That ye resist not evil."

We need not discuss theology in this place, and do not care in this connexion whether Christ's doctrine really was an absolute

non-resistance of evil, as is maintained in this and the following sentences. We only point out the truth of the sentiment which prompted these sayings and which should be expressed in the sentence: "Resist not evil with evil." Evil must be resisted; but we must not retaliate. Instead of demanding a tooth for a tooth, and giving a lie for a lie, we must overcome a lie by truth, wrong by right, and violence by patience. This ideal of Buddhism and of Christianity has not been introduced into our law books, but is an ideal which mankind in its further progress of evolution is endeavoring to actualise. Justice during the Middle Ages was to a great extent an administration of retaliating punishments. Criminals condemned to die were usually pinched with red hot tongs, their limbs were broken on the wheel, they were burned alive, and all kinds of cruel torture were cunningly invented to make the death of the criminal as painful as possible. All this has changed. Capital punishment, above all, has ceased to be a retaliation, and has become more and more a mere protection against the repetition of a crime. As it would be wrong to leave a tiger abroad, so a man, who by his very nature is a murderer, should not be allowed to remain at liberty, and since imprisonment is on the one hand not a sufficient guarantee for the safety of society, and on the other hand a more cruel treatment than death, capital punishment is, so far as our civilisation goes, still a necessity of our penal law. Yet the attempt is no longer made to retaliate on the murderer the cruelties which he has committed. It is a maxim which has never been explicitly introduced by law, but which is nevertheless firmly established in all civilised countries, that the death punishment should be inflicted with as little pain as possible. The criminal is simply no longer allowed to live, and capital punishment has ceased to be a revenge or retaliation. It has become a cure based upon the experience that the man who commits a murder is liable to commit another murder. Hence a murderer who has killed a man not on account of his murderous inclination, but through an unhappy complication of circumstances, be it in defence of his honor, or for some other reason which is regarded as a sufficient explanation of an unusual and justifiable wrath, will not be treated as a habitual

murderer, and is, according to the laws of all civilised countries not punishable by death.

Our penal laws are not as yet fully adapted to the new view. All the minor punishments are still based upon the plan of retaliation which makes our prisons and penitentiaries breeding-places of crime instead of what they ought to be, moral hospitals. There is no question, however, that the more human treatment of the criminal will in time be brought about. The result will as surely take place as the religious considerations of justice towards our fallen fellowmen and a scientific consideration of crime as a moral disease will in the long run change our methods in education as well as in the administration of justice.

What our courts of justice ought to be and ought to become, parents must realise on a smaller scale in the education of their children. There ought to be no punishment of children in the old and proper sense of punishment. Punishment, if we are permitted to use the old word in a more general sense, ought to become a method of education, and ought to cease inflicting pain without any ulterior purpose. Punishment ought to be nothing but the consequences of a wrong act which is brought home to the knowledge and the sentiments of the child. As a rule, parents do just the reverse. They make the children escape the evil consequences of wrong doing, and let them feel a punishment, the reason of which must naturally appear as the expression of wrath or ill-will. If a child breaks things, it ought, if possible, be made to feel the loss of the broken thing. Suppose he has broken his own glass, then it should not be replaced at once by a new one. If it is the glass of his brother or sister, he ought to give up his own to replace the loss, and if possible some arrangement should be made to let the harm that he has caused fall, at least in part, upon himself.

There is perhaps no harm for parents to show anger if children become very mischievous, but the anger should be felt by the child to be the direct result of his action.

There is a rule propounded by educators never to punish in a state of anger, and the rule is good. But it is insufficient, in so far as the child ought to feel the anger of his parents as the result

of his own deeds more than the punishment itself. It may be advisable even to simulate anger so as to impress the child's mind with the danger of losing his parents' affection. The child ought to learn what deeds are productive of wrath, and this should be made a means (one of the means only) of learning to avoid them. Otherwise, if parents would not resent mischievous acts, the child would, when later on he becomes acquainted with other people, be very much disappointed in the world, for no one else would exhibit the same patience.

The proper punishment would be to let a child feel the full result of wrong and unwise deeds. If once in a while you allow a child to eat his fill of sweets and become sick, and remind him when sick that his sickness is of his own doing, you apply a natural punishment, which without making him obstinate will cure him of a bad habit.

To educate children by simply forbidding is not the right way of securing manly independence. There ought to be as much liberty as possible, for by liberty alone the sentiment of responsibility can be insured.

DIRECT AND DIVERT, BUT DO NOT SUPPRESS.

Man is by nature a creature that yearns for activity. All his nerves and muscles are storehouses freighted with energy which are eager to perform work. The main duty of education consists in directing the work, but not in suppressing it. Every function performed establishes a case of precedence, and however easy, as a rule, it may be to dig the first channel for the rivers of the soul, it is very difficult to change them as soon as they are firmly established in habits.

Children that are taught to busy themselves will be more manageable when they grow older, than children who in their earlier years are left to themselves. The age of early babyhood so much neglected now, is in fact the most important period of a man's whole life, and this is not less true because the evil consequences that result from mistakes made at the beginning of life, are mostly difficult to trace.

The child has a right to be active and parents and nurses should see to it that when the little one is in good health it should always be busy.

Now it sometimes happens that a child does something that it should not do, that it touches things which it might break, that it begins to busy itself with things which it would better leave alone. In such cases it is not advisable to interfere violently by tearing away the thing which it should not handle. Educators will find it easy to divert the child's attention by giving it some other toy which for the sake of newness, or for some other reason, it will at once prefer.

The policy for all cases ought to be to divert the attention of a child instead of robbing it by violence of any object which it may happen to take hold of.

When things are taken away from the child, the child will naturally cry, and no one can blame the little fellow for it, but if its attention be diverted he will drop the forbidden thing voluntarily and there will be no crying and no naughtiness.

Therefore, nurses should make it a rule never to snatch away anything from a child before substituting for it some other toy which would appear at the moment preferable to the child's mind.

The same is true of bad as well as dangerous habits to which a child should be disaccustomed. Children generally love pencils and will put them into their mouths. Of course they may fall and knock the point of the pencil right into their throat. If children are forbidden to put the pencil into their mouth, they will be all the more anxious to do so and may develop a habit of doing it when unobserved, whereby an accident is almost sure to happen. But if you teach the child to take the pencil lengthwise in the mouth, he will more readily discontinue putting in the point foremost and you will forestall in this way the formation of a dangerous habit.

What is true of children is true generally. Any one who has to deal with obstinate people, especially the warden of an asylum with insane people, will be wise never to antagonise passionate outbursts unless compelled to do so by the direst necessity. Diversion is easier than suppression.

There is a story about a warden of an insane asylum who visited one of his colleague's institutions. He was admitted to the grounds by the janitor who knew him personally, and while walking in the park, met a gentleman who introduced himself as a doctor and inspector of the wards. The two gentlemen shook hands as colleagues and enjoyed a pleasant walk and talk and at last the visitor was shown up to a wooden tower which commanded a general view of the park and its vicinity. When the two reached the top, the inspector at once proposed to his guest to jump down, as that was his fashion with all the people whom he showed round through the institution. Now at once the visitor, to his dismay, becomes aware of the fact that he is face to face with one of the patients, who by some mishap must have escaped from his keeper, and as insane people frequently do, had up to that time behaved in a quite sensible way. But now the pretended inspector began to show all the symptoms of an approaching attack, and the visitor looked round for a means of defending himself in case of aggression. Had they come to a fight on the narrow platform of the tower, they would both have fallen a considerable depth. The visitor, being accustomed to insane persons, remained calm and said quietly to his companion: "You want me to jump down from this tower? That is nothing, every one can do that; but it is much more difficult to jump up from below. I'll show you how to do it, come down." The patient was startled, and asked, "Can you do that really?" "Of course I can," was the reply, "come down and I'll show you." Thus the expert alienist diverted the wild imagination of the patient and led him down to a place in which he was no longer in danger. They had scarcely reached the ground when the keeper arrived and took charge of the fugitive.

The lesson is obvious and the policy of the clever warden can be profitably imitated in practical life whether in dealing with irascible adults, with mobs, or with children.

EDITOR.

LITERARY CORRESPONDENCE.

PHILOSOPHY IN GERMANY AND AUSTRIA.¹

MY report on German philosophy in the Nineteenth Century (*Monist*, Vol. I. No. 2) referred in closing to the necessity for meeting the increasing influence of theological power and clerical philosophy with a vigorous combination and development of the results of free inquiry into a well-grounded, monistic theory of the universe. It does not seem as though this admonition had found any accord in the inner tendencies of philosophic thought in Germany. True, we may regard such a work as WILHELM WUNDT'S *System der Philosophie* as a vigorous step in this direction, although the circle which it can influence is of course only a narrow one because of the difficulty of presentation and because of the extraordinary subtlety of the abstractions treated. Wundt, the ablest force in German philosophy since the death of Lotze and Fechner, is qualified for such a work of systematisation by the fact that he is a citizen of two realms which have often seemed to be arrayed in hostility in the nineteenth century: natural science and philosophy. And the system which he presents as the result of his life-work is beyond doubt and in the best sense monistic. True, it refrains from abolishing the distinction between nature and spirit by any such conceptual unity as that by which either nature is spiritualised or the spirit materialised, after the fashion of idealism or materialism. But it does not for all that separate them after the fashion of dualism. To it the spirit-world is a parallel manifestation to

¹ Translated from the manuscript of Prof. F. Jodl by W. H. Carruth of the University of Kansas.

the natural world, and is associated with the highest forms of the latter in organic life. The spirit is developed from nature; nature is the preparatory stage of the spirit, and accordingly in its very essence and action a self-development of the spirit. Only in two points does this system overstep the limits which a strictly critical treatment would perhaps endeavor to observe. These are the notion of life and the notion of the collective will. The phenomena of the organic world seem intelligible to Wundt only upon the assumption that the highest forms of natural causality manifested in them are at the same time the results of spiritual forces—of the will. Thence their adaptation to their purposes. The will of living creatures is the creator of objective purposes in nature, inasmuch as it has itself exercised a modifying influence upon her organisms. This is a significant after-effect of Schopenhauer's notions appearing at the close of the century. Perhaps Schopenhauer's Platonism has also influenced Wundt's notion of the collective will, to which he ascribes an importance greater than it commonly receives in psychology and sociology. Here too there is room for doubt whether in every case where we meet expressions of the will of a collective body we have to deal with a really independent existence of this collective will, or whether it is not rather merely an aggregation of individual wills with common aims and common means of expression. But the vital point of the whole is a genuinely modern thought: the notion of a collective human ideal, the establishment of a general community of purpose in mankind as foundation for the greatest possible development of human energies devoted to the production of the things of the spirit. And from this point Wundt too finally enters the region of the transcendental. The ideal of civilisation shares in the transient character of all earthly ambitions. It may be regarded as the final goal of the order of things which we know, but not as the absolute ultimate goal; it is itself only an element of a more universal order of things which Wundt calls God. I consider this adoption and adaptation of a traditional mode of expression not quite justified. For, since Wundt characterises the notion of a direct interference of his divinity with the affairs of the world as unthinkable and even irre-

ligious, and reduces the idea of immortality to that of the permanence of objective spiritual values, this conception of God lacks entirely the traditional content. It seems to me to express only the conviction that the forms of the highest spiritual life have a significance not merely for this earth, but for the universe; that not only the laws of nature but also the moral laws are cosmic laws,—a conviction in which this modern monism closely approaches the older speculative idealism.

It is unnecessary to refer to further details of this philosophy. Wundt's name is familiar to the whole world, and his utterances are sure of being considered and weighed wherever philosophy is cultivated. Therefore I would like to call the attention of my readers to some more recent works by less-known men, who likewise attempt by philosophic methods to shape the results of modern research into a consistent whole.

GIDEON SPICKER'S book, *Der Kampf zweier Weltanschauungen*,¹ is the outcome of the close reciprocal influence of historical studies and systematic labors. The author, who is a professor in the Akademie at Münster in Westphalia, calls the work in a sub-title: a critique of ancient and most recent philosophy including Christian revelation. In many respects it recalls an earlier work of the same author: *Ueber die Ursachen des Verfalls der Philosophie in alter und neuer Zeit*. The cause of this decay seems to Spicker to be the same in all times: the diversion of philosophy from its speculative problems, the neglect of reflection on those "solely great and important themes" for the sake of which alone, as Schelling somewhere says, it is worth while to pursue philosophy.

Such a demand is not to-day popular everywhere in the ranks of those who call themselves philosophers. Often and emphatically the opposite view has been expressed: that this very love of speculation is the curse of philosophy, the source of numerous extravagances, the reason of its being discredited in the eyes of exact science. This view, which tends to resolve philosophy into a group of special sciences, destroys the very life of philosophy, as Spicker

¹ Stuttgart, 1898.

sees it. He cites the case of history. Any one, he says, who considers how the transcendental idea holds its own and comes to the front beside the empirical, throughout the whole course of human thought, cannot doubt that we have to do with a profound spiritual need, and cannot believe that the present predominance of the empirical method of thought and investigation is the final stage of our development. Any one who should propose to banish for ever from philosophy the investigation of the transcendental would inevitably lose all appreciation of the relative truth of earlier philosophical development; "he wanders through history as though it were a cemetery, regarding systems as graves and the works handed down to us as gravestones the only remaining purpose of which is to tell us who lie buried there." Spicker opposes with all his might such a merely negative valuation of the intellectual work which is stored up in the past development of philosophical thought, and I think he is quite right. No extension of the field of the special branches of philosophy, no amount of progress in the natural and the historical sciences can satisfy the desire for the unification in incontrovertible concepts of all our fields of knowledge,—the need, renewed with each generation, of formulating a theory of the universe. On the contrary, this need will continue to grow in proportion as the content of our knowledge increases and becomes actually enormous. We already hear voices to-day, in the midst of our empiric-inductive and analytic age, which predict the near approach of a period of reconstruction and synthesis.

However, Spicker's way of characterising what he calls "speculation," or "the transcendent function of philosophy," is not always acceptable. We shall willingly agree with him when he points out as a distinction between speculation and empiricism that every special science is restricted to a sort of partial completeness, while speculation directs its attention always and everywhere to the completeness of the whole. But this supports only in a limited sense the correctness of the proposition which Spicker maintains in the face of the empiricists: "Higher philosophy begins where experience ends." How else can we attain to a practicable conception of the complete whole, to a theory of the universe, than upon the

basis of the logical examination of the greatest possible number of particular experiences? We can, indeed, go beyond immediate experience hypothetically, but whenever the consequences of our hypothesis are not verifiable we acquire no knowledge.

But even this demand is not strictly maintained; imperceptibly something different takes its place: the demand for scientific knowledge of an ultimate principle, the knowledge of the absolute. This Spicker calls the ideal of philosophy, and this ideal has both an objective and a subjective import, because the conception of the absolute has become all powerful in all possible states of civilisation, and is yet to be perfected. In brief, the real aim of what he calls speculation is in Spicker's mind the deepening of the knowledge of God. If any one doubts this, Spicker himself offers him the most infallible demonstration in his Second Part, which he calls "*Kritische Entwicklung des Principis*," and in which three long chapters are devoted to the examination of pantheism, theism, and orthodoxism. They show incidentally that Spicker is by no means a secret partisan of the Church. His interpretation of history is entirely different from that which is popular with the Catholic Church. He recognises two periods of philosophical advance: that of Greek idealism, and that of modern speculative idealism; scholasticism is regarded not as a climax, but only as a transition stage. Spicker reproaches it with having gathered together empirically its premises: i. e., Christian dogmatism and Aristotelian philosophy, harmonising them as far as possible instead of developing each in accordance with its logical content and deriving the world from them.

Spicker recognises the universal truths contained in theoretical Christianity, but he attacks the rigid, inflexible form given these truths by theology, a form which makes them a check upon free thought and research. In enthusiastic words he everywhere advocates the autonomy of reason, which he calls the root and flower of the whole modern view of the universe. It constitutes the decisive difference between the modern man and the man of antiquity or of the Middle Ages. Kant, who in the Catholic view of history was the very spiritual seducer of the modern world, occupies in Spick-

er's opinion the centre of modern philosophy from Descartes to Hegel, just as Socrates did in the philosophy of antiquity between Thales and Plato. "Any one who goes beneath Kant's words and grasps simply and solely the idea of the problem will never deny the importance of his Kritik, apart from its untenable conclusions." Nevertheless, it is only a preparation, not a definitive achievement. We must look to the future for the genius who shall make a systematic summary of the empiric and the speculative conclusions of the present day and represent the modern conception of the universe as did Aristotle that of antiquity,—not the immediate future, indeed, for to-day the general depreciation of speculative philosophy does not bespeak any great demand for such an unusual phenomenon.

Despite these doubts, however, Spicker himself is not disposed to stop with the critical and methodic preparations for this task of the future. He promises the early conclusion of his work in the shape of a systematic section, intended to meet his own needs if not to satisfy an age lost in empiricism. I must defer until the completion of his work the discussion of his treatment of the ideas of God and of the notions of religion. It has many keen and notable thoughts; what their total significance may be can be shown only by the deductions which the author himself will make from it. In all directions Spicker's treatise offers a rich treat. He is a serious, meditative spirit, equipped with a comprehensive knowledge of the spheres of philosophical and theological thought, and who, unconfused by ephemeral opinions and unconcerned about immediate success, goes his own quiet ways. There is reason to look forward with eagerness to the positive completion of his views.

What Spicker promises for his Second Part, WILHELM HAACKE offers to give ready to hand in his essay, *Die Schöpfung des Menschen und seiner Ideale* (Jena, 1895). This book also announces its purpose in its sub-title, "An attempt to reconcile religion and science." But while Spicker seeks for his undertaking a broad basis in the whole previous development of philosophic thought and in historical and critical reflections, Haacke's attempt is founded chiefly on zoölogy and the doctrine of evolution. But the result he reaches

is not void of contradictions, and the genetic development of spiritual phenomena is far from satisfactory. Haacke takes his stand frankly upon the platform of a mechanical theory of descent. He declares this to be the only authoritative theory in natural science, and gives it the most definite expression in the proposition, that the whole world is but a mass of unequally distributed atoms, which may be conceived as centres of condensation in a continuous and homogeneous matter, and subject to the laws of mechanics. And of all the mechanical theories of descent which are treated in detail in the Second Part, the only consistent one seems to him to be that of epigenesis, propounded at the end of the last century by Kaspar Wolf. In the form which he himself gives to this theory it teaches that the germ of the organism consists of a substance already shaped, from which the organs to come are developed by transformism by virtue of a formative principle inherent in all beings. This formative principle Haacke calls the endeavor of every object in nature to come into equilibrium with its environment, and ascribes to it cosmic as well as psychologic significance which goes far beyond the ordinary scope of biology.

A great part of the book, which is supplied with numerous illustrations, is accordingly devoted to the simple history of development. Aimed in a polemic spirit against Darwin, and especially against August Weismann and in general against the theory of preformation, it attempts to confront the two opposing theories with the whole wealth of the now available results of investigation, and to derive the development of animal forms, as well as of man as a member of the animal kingdom, from the endeavor after equilibrium. The definitive criticism of this exposition belongs to biology.

Personally I am much attracted to the purely mechanical theory of natural phenomena as well as to the idea of transformism, as opposed to any form of preformation. The way in which the phenomena of the soul and of civilisation—language, beauty, morality, truth, religion—are derived from the universal tendency toward equilibrium, and the way in which the author attempts to deduce from the same principle the practical norms for individual conduct as well as for the institutions of nations, is altogether too superfi-

cial. The inadequacy of these attempts can scarcely be doubted by one who is even moderately acquainted with the extraordinarily complex character of the problems treated and with the wealth of ideas in the sciences involved in their solution. Haacke's achievement can be regarded at best only as a beginning, an index for seeking the manifestations of the principle of equilibrium in the spiritual world; the author is very far from even the approach to a solution of this tremendous simplification and unification.

While in this point he performs less than he promises, in other respects he gives more than necessary. From one who takes his stand upon the mechanical theory of descent and undertakes to describe the origin of man and his soul, we have a right to expect that his attention will be especially directed to the appearance of consciousness in the organic world. Numerous attempts have already been made to explain from the necessities of intensifying and developing life the origin of consciousness. One would think that the principle of equilibrium between the organism and its environment would find important applications to this subject. But instead of a searching genetic investigation we find in Haacke only a dogma. In dealing with man and animal life we cannot possibly deny the parallelism of spiritual and mechanical phenomena, because it is forced upon our attention by the most conclusive facts. Haacke postulates it outright for all the phenomena of nature, even for physiological and chemical processes, although here it is not supported by a single fact, but is purely hypothetical. Haacke tries to overcome the dubious character of these assumptions by declaring: "Any one who rejects the assumption of a will in the inorganic world must be prepared to deny sensation and will to other men." Thus he arrives at Schopenhauer's familiar proposition: "Wherever there is motion there is will," to which is added in another place the proposition: "Wherever there is feeling there is the will to feel." As Schopenhauer makes will identical with life, so Haacke makes the will equivalent to equilibrium, the creator of the world that we can observe and investigate. This assumption has for Haacke a different significance from that which it has for most other advocates of the idea of panpsychism. As a rule

they base their argument upon the impossibility of explaining the subjective as evolved from the objective. Therefore the psychic must be regarded as one of the elemental phases of the world. By his theory of the universe, which he regards as consisting of material elements and complexes which are at the same time souls or media of psychic phenomena, Haacke thinks he has prepared the way for the possibility of harmony between the mechanical and the teleological view of nature. This suggests that phase of Wundt's system which I have mentioned above. Now it is easy to see how much farther this panpsychism goes than that of Wundt, which attributes soul only to living beings. But Wundt makes a serious use of this animism for the explanation of objective teleology, while for Haacke this thought of panpsychism is merely a bit of decoration, a philosophic fad. Natural science is and must remain mechanical. The author repeatedly declares that no knowledge can be derived from panpsychism. And yet he is in earnest about this fad. "It must permit us to give to science what belongs to science, and leave every one free to give to God what is God's." I have difficulty in following the author here. Will the course of the world, in which he sees only mechanical causality, be different if there is psychic activity behind all the phenomena of nature? And why introduce into a universe, whose supreme law has been announced as the endeavor after equilibrium, such a "watch-maker" deism, to transform the chaos into a cosmos? The double-entry bookkeeping proposed by the author, with an account for science and another for faith, is an old and worn-out device, which will fail to satisfy the readers of *The Monist*, above all people.

The book is another example of the familiar experience that it is a serious error for naturalists to assume that their equipment in natural science as such qualifies them for the solution of philosophic problems. And a specialist is amused by Haacke's assurance that his philosophy, despite occasional agreements with other thinkers, is strictly his own; that the naturalist must make his own philosophy, in case he needs a philosophy. As though the development of a system of philosophy were something which could be accom-

plished quite on the side, and as though in such a way anything else than personal crotchets were likely to appear in the results.

Much more peculiar than such mental gymnastics of a naturalist turned philosopher seem the dogmatic convictions of a philosopher turned theologian, as seen in the recently completed *Geschichte des Idealismus* by OTTO WILLMANN, professor of philosophy and pedagogy in the German university of Prague. What the author means by idealism is that dualistic and transcendental mode of thought which is anticipatively hinted in Indian, Jewish, and Orphic wisdom and which first found its logically treated and formally completed expression in Plato and Aristotle. The destinies of this mode of thought are in Willmann's mind the same as those of philosophy, and are a sort of drama of universal history in which the naturalism of all ages and especially all modern philosophy plays the role of "Diabolus," the evil principle. The more independent the development of philosophy since the age of the Reformation the more it rouses the wrath of Willmann. The "royal road of human thought," once found when the great systems of antiquity were enriched and deepened by the conceptions of Christian dogmatics, has been deserted in inexcusable frivolity. The whole philosophic development of modern times is a long and painful path of error: after the reign of genuine idealism, the reign of false idealism culminating in Kant and bringing as its practical results the great revolutionary movements. The nineteenth century in its attempts to resume the method and course of scholasticism is slowly bringing some light into the boundless intellectual darkness, and finally, in the bull *Æterni Patris*, Leo XIII. speaks the word of redemption, leading philosophy back, after the endless fluctuation of systems, upon the firm foundation of Thomistic theory, the alliance between faith and reason.

It is necessary to have read treatises of this sort in order to be clearly aware of the intellectual gulf which separates Catholicism and Catholic scholarship from that philosophical method which we are accustomed to regard as the achievement of the recent centuries. It is an impression similar to that which would be experienced by an astronomer if he unexpectedly came across an adher-

ent of the geocentric theory who should attempt to demonstrate that the history of astronomy since the time of Copernicus has been only a series of harmful errors. On this very account such works are of value. They throw a sharp light upon the error which has been implanted in many people by the outwardly so conciliatory friends of the present pontificate, to the effect that there is a real approach between modern science and Catholic orthodoxy. Such a reconciliation is impossible. For the very principle to which the modern world owes its proudest triumphs in thought as well as in action, the principle of the autonomy of reason, is in the eyes of the hieratic philosophy the root of all evil. But such books as Willmann's teach still more than this. They reveal a strange world, both theoretically and practically, in the profound intolerance which dominates them. That they oppose and condemn views unlike their own, is but natural. This is the right and duty of every strong and honest conviction. The offensive thing about this polemic method in history is that its followers make the "errors" of every thinker who deviates from the line of Plato, Aristotle, Aquinas, a matter of conscience, and ascribe them to moral turpitude. And this is what Willmann does, as Haffner had done before him, and before Haffner, Baader. Here the system to which these men are devoted shows its cloven foot, and teaches us what we might expect for intellectual freedom if ever this orthodoxy again had control of "the secular arm."

It is a wide horizon which is swept by the eye of a scholar like Willmann. All the resources of the most cunning literary training and of the most extensive reading are at his command, and there can be no doubt that *Die Geschichte des Idealismus* is one of the most impressive of all the philosophical works which have been written under the influence of the Catholic propaganda during the last few decades. And yet one draws a sigh of relief when he turns from its zeal-inspired pages to another work of history of recent date, in which THEODOR GOMPERZ has begun to sum up the results of a long life of investigation: *Griechische Denker, eine Geschichte der antiken Philosophie*; I. Vol., 1896. To the task of painting a new panorama of Greek philosophy to succeed Zeller's classic book,

which has long been the property of international scholarship, Gomperz brings a remarkably well adapted equipment. For more than three decades he has been employed as a teacher of classical philology in the University of Vienna, devoting himself all this time in large measure to the work of linguistic and antiquarian investigation of classic philosophical literature. He has not only worked over this literature even to its most minute details, but has increased its fragmentary and incomplete stock by important new discoveries. But the eye of the scholarly philologist reaches farther than this: it covers, one may say, the whole field of the writings of antiquity, and has also the gift of using this field freely to supplement the often scanty and vague account of individual thinkers and their works, to throw light upon the numerous difficulties which make the pictures of ancient philosophers indistinct and unrecognisable. There is nothing in Gomperz of that philosophic bias, that monomania for antiquity which is so often felt in learned and enthusiastic antiquarians. His knowledge of antiquity is not an artificially animated mummy, but a portion of our own scientific thought. Not a world apart, but our world in the making. Only thus is the intellectual life of antiquity made really accessible to us. The remote past becomes present. Hoary controversies, which seem to the untrained and uninitiated mind to be partly childish, partly irrelevant, take on the interest of burning questions of the day; we discover in them the problems that occupy us so intensely. Thus the philosophy of antiquity attains for the study of philosophy in general a pedagogic and propædæutic value which has often been claimed for previous treatments of the subject, but which they have been able to demonstrate in practice only in a very slight degree. We are here shown the problems of philosophic thought in their simplest forms, those forms in which for this very reason they are most accessible to the adept. I am disposed to rate this result even higher than the purely historical result which Gomperz himself lays such emphasis upon, the perception of the Greek origin of our whole intellectual culture, a perception which is, in his opinion, the indispensable condition of liberating us from the too great influence of that origin. "If," says

Gomperz, "we are not to regard what has come to pass as primitive and what is artificial as natural, we must attempt to understand thoroughly that process of development. Auguste Comte's utterance, which is so true in the sphere of practice, "We destroy only when we replace with something else," may fairly receive this parallel in the sphere of theory, "We refute only when we have explained."

However, Gomperz expects from a thorough acquaintance with Greek antiquity positive gains for our scholarship. He calls attention to the fact that the undeniable advance of modern thought beyond the achievements of the Greeks is by no means uniform; that it has been vastly less in the moral sciences than in the field of natural science; that many questions of fundamental theory still await their solution, even in the latter field, and that the most familiar and difficult of problems, while they have often changed their outward garb, remain after all at bottom the same. In this, too, I agree with Gomperz. Just such a treatise as his shows how many suggestions applying to the fundamental problems of philosophy are yet to be derived from Greek thought. "*Les anciens ont tout dit, rien prouvé*,"—perhaps we are able to-day with our apparatus to prove many propositions which in ancient Greece were only ingenious conjectures, and to refute many notions which in those days could maintain their equal value with the others.

This is not the place to go into the merits of the present volume. I would only refer to the rich background of general features of national life on which this picture of Greek philosophy is painted, and to the broad limits of the author's conception of philosophy, which permits him to consider also the adjoining territories of mathematical, natural, medical, and historical labors among the Greeks. A multitude of passages, which have hitherto bid defiance to the commentator's skill, appear in a new light before his comprehensive scholarship. Two sections of the book seem to me to deserve especial mention: the exposition of the beginning of greater profundity in the Greek popular religion of the Orphic sect, and the connexion of these thoughts with the Pythagorean philosophy; and second, the presentation of Sophistic philosophy in two de-

tailed character sketches of Gorgias and of Protagoras. These are two admirable performances, the one a contrast to the poverty, the other a contrast to the rank and abundant absurdities of the average treatment of such subjects. The information that is here derived for us, from an incredibly confused and scanty material, upon the development of the Greek conception of the soul, of the idea of immortality, the notions of future rewards and punishments, and on the other hand upon the very positive, but by no means always conclusive, performances of the Sophists, are in my opinion among the most valuable results of the work. Two more volumes are to follow, in one of which the author is to treat Socrates and the Socratic school, Plato and the Academy, Aristotle and his disciples, and, in the third volume, the Stoics, the Epicureans, mysticism, scepticism and syncretism in ancient times. It is greatly to be hoped that it may be granted the author from the abundance of material at his command to finish the work in accordance with his plan, thus setting a genuine boundary stone to the accomplishment of a century of incessant labor in the field of the history of Greek thought. Certain portions of the volumes yet to come may be looked forward to with especial interest, particularly the treatment of that whole complex of most difficult critical problems which are connected with the philosophy of Socrates and Plato.

Under the scientific supervision of R. FALKENBERG, professor of philosophy at the University of Erlangen, whose excellent outline of the history of modern philosophy has already been translated into English, the publishing-house of Frommann in Stuttgart has begun an encyclopedic work, *Klassiker der Philosophie*. It is evident that the similar undertakings in English, the collections which have been published by Grigg and Blackwood under the supervision respectively of Knight and Morris, were the models for the present work. Inasmuch as monographs in German on the leaders of philosophic thought are already numerous, it is entirely proper that this collection should not too strictly limit the scope of "classics," but include many really important though rarely delineated thinkers. Up to date there have appeared: G. Th. Fechner, the keen panpsychist and founder of experimental psychology,

portrayed by Lasswitz; Hobbes, by F. Toennies, who in conjunction with Croom Robertson discovered and published the *Elements of Law* in its original form; Herbert Spencer, by P. Gaupp; Friedrich Nietzsche, by Alois Riehl; Kant, by Fr. Paulsen; and two works by Harald Høffding, the distinguished Danish philosopher, who once more in this work demonstrates his close connexion with German intellectual life,—Rousseau and Søren Kierkegaard. It is not probable that all these works would have equal interest for the readers of *The Monist*. Some of the persons here represented are familiar enough through English characterisations. But I should like to call attention to the work of Alois Riehl on Nietzsche, and that of Harald Høffding on Kierkegaard. We here meet two prominent philosophers of our time, themselves not so very different in their personal views, as portrayers of two individuals who are equally important as authors, equally original as thinkers, equally paradoxical in their utterances, but who stand at opposite poles in the world of thought.

Kierkegaard, who took up the religious problem with tremendous seriousness, who, entirely filled with the spirit and thought of the New Testament, measured by it with inexorable strength of character and of logic everything in our day that claims to be Christianity or indeed practical conviction of any sort; yet not merely a preacher and theologian, but at the same time one who endeavors to interpret the world upon the basis of religious truth, to combine religion and philosophy in one comprehensive theory. Nietzsche, on the other hand, the clever aphorist, the uncompromising sceptic, and above all the fiercest, most scoffing, and at the same time most deep-thrusting enemy whom Christianity has had among philosophers since Hume and Voltaire, an opponent compared with whom David Strauss and Feuerbach were pious pastors,—hostile not only to Christianity as a dogma, but to the whole body of moral doctrines that have grown up under its spiritual influence: love, self-denial, altruism, the welfare of the masses. Both of them stiffly opposed to all tradition; both destroyers of established standards,—but with entirely opposite tendencies. The comparison of these two delineations, both of which are so excellent from a literary

point of view and so thoroughly studied out, affords one of the most enjoyable antitheses of philosophic literature. Both of them are notable for the keen psychology with which they present the complicated fabric of these strange minds. Riehl's merit is the greater, in proportion as it was more difficult to be temperate in the estimate of Nietzsche. Long neglected and scarcely heeded, he is to-day the idol of a numerous school, which thinks to honor the boldest paradoxer of all times, and the most determined freethinker, by constructing a system from certain of his conceits and by copying in an insufferably stilted jargon the poetic splendor, the epigrammatic condensation of his style,—and on the other hand he is the very Anti-Christ and Satan to all who hold to the faith of the Church as well as to all those plodding conservative souls who think that the moral world will collapse if any one throws a strong light into the face of the standard conventional morality and shows the amount of rouge upon it.

Paulsen's treatment of Kant, occupying two volumes, turned out rather too detailed for the aims of the collection. A condensed presentation of the leading thoughts would have been sufficient in a time when such an immense amount of study is devoted to Kant. Naturally there lies in this very importance of Kant for the study of philosophy at the present day a strong temptation to put forward one's individual views, and on this account I would call especial attention to Paulsen's book. A thought which Paulsen expressed in a previous work on Kant dominates the present presentation of his whole system. I think this thought must strike every one who looks back to Kant from the scientific beliefs of to-day. To the mild German rationalism of the previous century, sprung from the school of Leibniz and Wolf, Kant appeared as the "all-destroyer"; to us, comparing his work with the thoughts of Hume and Diderot, and looking at it with the eyes of Mill and Feuerbach, he seems almost like an "all-restorer." Not scepticism, not radicalism, but rationalism is the right notion of Kant's philosophy. His thought in its innermost motives is related to that of Plato, as Ernst Laas, in his *Idealismus und Positivismus*, demonstrated by numerous examples; the old rationalistic metaphysics of Cudworth, Clarke,

Leibniz, and Wolf is in due time transformed and celebrates a joyful resurrection as the critical philosophy. Paulsen's whole delineation is dominated by this thought, and one who is not convinced by it need only be reminded of one outward fact: the extraordinary popularity which Kant's philosophy has enjoyed in the second half of our century among all who regarded themselves as the chosen guardians of so-called idealism. It has joined the ranks of the conservative forces. This, indeed, only on the Protestant side, where influential theologians have not only become reconciled to Kant's philosophy, but have seen in it a rallying-point of faith. Catholicism is to-day, more than ever, separated by an impassable gulf from all other intellectual systems. It makes no effort to attain even a measure of harmony with the great currents of intellectual life, but only to construct a sphere of its own and to bring all the others into it. It sees in Kant only a system of negations—a shadowy world filled only with phenomena,—sees the resolution of those supersensual truths, which should be the foundations of all certainty, into mere postulates, i. e., into pious wishes and ungrounded hopes. There are some details of this criticism of Kant with which we are inclined to agree, but no one can survey the totality of his mighty philosophic fabric, and receive without prejudice the impression which it makes as presented anew in Paulsen's treatise, without being filled with reverence for the serious and lofty disposition with which he undertook to save from the ruins of a decaying world the things of the highest spiritual value, casting them into a new mold, as well as for the unity of his conception which is nowhere missing throughout his whole wide system.

VIENNA.

FRIEDRICH JODL.

FRANCE.

There is not so much difficulty in clearly epitomising the newest little book of M. G. TARDE,—*The Laws of Society*, as there is in giving a critical estimate of its importance as a *sketch of sociology*, for such is the subtitle of this work and a clear definition of its

lofty aim. M. Tarde is so prolific in ideas, at times of a startling nature, and has expounded them in such densely packed volumes, that it has not infrequently been his misfortune to be misunderstood. He has, accordingly, himself felt the need of exhibiting to his readers the secret bond which unites his three great works—*Les Lois de l'imitation*, *L'Opposition universelle*, and *La Logique sociale*—the bond by which coherency has been imparted to the *membra disjecta* of a single systematic conception, or rather a science of society, which is absolutely new, and whose true character I am desirous of justly appreciating.

Facts are presented to us, according to M. Tarde, under the three main aspects which he has considered in his studies and which are: *repetitions* (there is no science save the science of the general, that is to say, of the individual considered as repeated or as susceptible of being repeated indefinitely): *oppositions* (science seeks the opposites inherent in reality, whereby it studies the destruction as well as the creation of phenomena); and *adaptations* (progressive co-ordination). Repetition, opposition, adaptation, these are "the three different keys by which science unlocks the secrets of the universe." Let us see first what M. Tarde understands by this in the case of repetition.

Scientific progress, he justly remarks, consists in "beginning with single repetitions, or a very small number of repetitions, which are of an imposing and obtrusive character, and in reaching by their consideration an infinity of infinitesimal likenesses and repetitions, real and elementary, which have furnished by their appearance an explanation of the initial repetitions"; and this important remark is not only applicable to repetitions; it is also applicable to oppositions and adaptations. It is restricted, I should say, to establishing the progress of analysis which alone prepares the way for and permits of broader and more exact syntheses. The same advance is accordingly observed everywhere,—in sociology, as in astronomy, botany, or biology. Just as science has substituted for the apparent rotation of the heaven in its entirety the actual facts of a multitude of minor rotations, so also for the historical cycles which Plato assumes, Aristotle substituted detailed repetitions,

which are very frequently true, and thinkers have since established the partial evolution of certain broad and general facts, such as family, property, etc., which it is permissible to analyse still farther into secondary facts. But M. Tarde does not stop here; he is anxious to reach the "elementary repetitions," which are for him the "action of one mind on another mind." The laws of repetition, accordingly, are to sociology what the laws of habit and heredity are to biology, the laws of gravitation to astronomy, and the laws of undulation to physics.

The same remark and the same conclusion are applicable to oppositions and adaptations; for instance, the gross and obvious oppositions of life and death, of youth and old age in biology have been replaced by the infinitesimal oppositions of the oxidation and deoxidation of each single cell, the accumulation and expenditure of force, in all the varied forms of "struggle" or "rhythm"; while at the same time still more profound dissymmetries have been discovered, such as the functional dissymmetry of the two hemispheres of the brain. In sociology we see war reduced to competition and competition to discussion. The "elementary" social opposition finally is to be found in the interior of every individual, in every case that such an individual hesitates between two contrary directions. Just as rhythm and opposition promote repetition directly and variation indirectly, so struggle produces adaptation. And this is the profoundest aspect under which science envisages the universe. To the gigantic geocentric adaptation of the early conception succeeded the partial harmony of the solar system, of the planets with their satellites, etc.; likewise, the "single drama" to which Comte reduces history has made way for the social dramas of Spencer, and these in their turn must be resolved in "elementary" social adaptation, which is that of two men of whom the one is the teacher and the other the learner, and of whom one commands and the other obeys,—or, profounder still, that of two ideas in the brain of a single man. "At the bottom of every association between men," says M. Tarde, "there is originally an association between the ideas of some single man."

In all cases, accordingly, we reach the individual, "the brain

of the genius" who invents and who decides, and from whom all proceeds—in a word, individual or collective psychology. The grand stream of history has a primitive source, viz., invention, and likewise a final destination, viz., the formation of superior personalities.

Such is the central conception, alike new and remarkable, of M. Tarde. What is its significance for the establishment of sociology? That is the question. I see no other way of deciding this point than by considering what is meant by the establishment of a science. The establishing of a science—I may say again at the risk of repetition—is nothing but the determining of how certain successions of facts vary as the function of certain other successions, or correlatively with certain other successions, and the formulating of the laws of these variations whenever it is possible to extricate such laws from the complexity of phenomena. This is the method which all scientists follow, and sociology can form no exception. M. Tarde will doubtless not dispute this truth; but what in his conception are social facts? At the outset he appears to accept only psychological facts; nevertheless, he does not refuse to recognise that there exist other facts which are the product of the "socialised" individual activity—like the monuments of art, religion, government, economical institutions, etc., which once created may be said to constitute in their turn important factors of that "collective psychology" to which M. Tarde claims to have reduced the science of societies. If science, and this is the starting-point of our definition, is necessarily founded on the comparison of social facts, conducted with a view of exhibiting their simultaneous and successive variations, would not the wisest course be to accept these facts as they are, in the mass and as results solidified so to speak in the concrete form of institutions, or in the numeral form of statistics, leaving out of account the underlying psychological conditions? Is it not true that the study of these last belongs to a particular science which enters sociology but does not constitute it?

As to the second point, which is the formulating of the laws of variation of social facts, the doctrine of M. Tarde seems to enjoin us from seeking to discover any laws which are not simple laws of

psychology. He is averse to conceiving laws of history; he does not see in history a single definite route, but "a net-work of highways with innumerable cross-roads." He is averse also to the theory that social phenomena have definite tendencies or directions. But let us not exaggerate this point. M. Tarde recognises one fact which is preponderating; this fact is scientific invention. Invention determines certain "common tendencies" which the system of history follows in the various spheres of evolution; it is even calculated to lead evolution toward an ideal goal which is final harmony, or a more perfect adaptation of individuals and collectivities. But is this not tantamount to returning to the doctrine of Comte which connects historical development in its entirety with a psychological fact, while still investing the "social fact" with an independent and objective character? And if Comte prematurely flatters himself upon having marked out a definite route for the human mind, and upon having formulated the laws of succession of scientific discoveries, is not M. Tarde wrong in having hesitated to take advantage of his own "dominant fact" to explain the grand aggregate succession of social phenomena which he neither exactly denies nor accepts?

As to the analogies upon which he takes his stand,—the facts which he calls elementary, the imitating of one man by another man, opposition and adaptation of two ideas in the brain of the same individual,—can these facts in so far as they are ultimate facts of analysis really play the same part and render the same service in sociology as gravitation does in astronomy, the undulation of the ether or the mechanical equivalent of heat in mechanics? What M. Tarde succeeds best in bringing out is on the one hand the function of the individual factor and the significance of the psychological situations which are transformed into social states; but the description of these situations cannot supplant the description of the states into which they are transformed, and the social states have, as compared with the individual situations, an originality and peculiar quality of existence such as the most complicated physical facts never present as compared with the elementary functions of vibration, molecular arrangement, and the transform-

ation of heat and work. Even the acceptance of the doctrine of M. Tarde would not absolve us from applying to the study of social facts methods which are quite foreign to the study of the facts of psychology, however legitimate in some regards the consideration of social science as collective psychology may be.

The second point which M. Tarde has sought to place in relief is the relation of the psychological forces to the other forms of energy in the universe—the analogy, vague though it be at present, by which it is possible to connect our states of consciousness with the general rhythm of the phenomena of the world. But this is pre-eminently a philosophical view,—a view which reaches beyond sociology as it reaches also beyond astronomy, physics, and biology; but far be it from my thought to depreciate the ability and originality of this conception; it has not been my intention in these few and meager passages to pass any strictures whatever upon the sociological theory of so eminent a writer as M. Tarde, and I entreat him to see in it only a sincere effort toward comprehension.

* * *

M. EDMOND GOBLOT presents us with an essay on the classification of the sciences, *Essai sur la classification des sciences*; it is the best work with which I am acquainted in this important branch of philosophy. M. Goblot remains faithful to the controlling idea of Comte, while at the same time correcting, completing and improving his doctrine. Spencer, let it be said, has rather confounded and complicated the problem. The succession of the sciences remains in the system of M. Goblot unilinear, and continues to form a hierarchy. The reason for this "single" hierarchy is given us in the "formal unity" of science; the task of every science consisting essentially in its disengaging itself from the concrete knowledge of things, in order to contemplate them from an abstract point of view, from which the human mind embraces beings and phenomena as they are given, and as they are possible, or simply conceivable. As to the reason for the several stages of this hierarchy, it is founded on the diversity of the points of view of the sciences, that is, on the existence of irreducible general concepts which have been successively introduced into it. M. Goblot aban-

dons, therefore, at the start, the distinction between sciences as abstract, deductive, and ideal, and sciences as concrete, experimental, and real. Mathematics, which are an example of the first, is the type, according to him, toward which the second which are the sciences of nature ultimately tend. This does not mean that there are no special and descriptive sciences: we shall see that M. Goblot assigns to these their right places in his classification by basing them upon a very simple consideration.

In the first rank we find arithmetic and algebra, which are the sciences of quantity; in the second rank, geometry, which is the science of space. Mechanics takes third rank as the science of motion and of forces. M. Goblot justly observes that the idea of motion is not irreducible, as is that of space and that of time. It must be constructed by means of a true definition. Like the sciences of quantity and space, rational mechanics begins by establishing special propositions and proceeds by successive generalisations. It offers the best example of that evolution by which sciences which were inductive at the start have become deductive in development from the moment their elementary notions were elucidated and their essential definitions formulated.

The fourth place is assigned to cosmology, which includes physics and chemistry, which are here characterised much more exactly than they were by Comte, and also by M. de Roberty. With Chevreul, M. Goblot assigns to physics the study of the general properties of bodies; to chemistry that of concrete species. In the title, *Theoretical Cosmology*, he distinguishes pure abstract or general cosmology on the one hand, and applied or concrete cosmology on the other; the latter forming three groups together with chemistry and mineralogy, in so far as these are systematic or special studies (the study of species *per se*), with astronomy and physical geography in so far as these are descriptive studies (the distribution of creatures and phenomena in space), with cosmogony and geology in so far as these are historical studies (distribution in time). Corresponding to the aggregate group of theoretical cosmology are the mechanical arts which make particular use of cosmological knowledge.

With life a reality of a new order is introduced which does not represent mechanism, and which makes of physiology an autonomous science. Pleasure and pain are fundamental notions without which there would be no psychology nor physiology. These two sciences are interconnected and inseparable. M. Goblot apparently establishes with biology a fifth order or rank of classification in which we find the same principle of subdivision as in cosmology. But he goes farther and seeks to group the science of life and social science under a single title, bio-psycho-sociology, which he subdivides in the following manner. The theoretical part embraces on the one hand the pure or general science, that is physiology (the laws of the organic, psychological, and social functions of all living beings), on the other hand, the applied sciences which are divided into, (1) special sciences (the systematic order), including botany, zoölogy, anthropology, the organic, psychological, and social properties of every species; (2) the geographical sciences (the order in space), including biology, linguistic, economic, political geography, etc.); (3) the historical sciences (the order in time), including paleontology, history, etc. Hygiene and therapeutics, understood in their broadest significance, correspond, under the title of practical sciences or arts, to this aggregate of theoretical studies, pure and applied.

Ethics for M. Goblot is merely an application of theoretical knowledge, which is science in its entirety. I agree with this view, on the condition that it be not forgotten that ethics, like esthetics, always belongs in one of its aspects to psychology, that is, to pure science. Logic appears to have embarrassed the author; he is unable to classify it with mathematics, as Spencer has done not without good reason in his group of "formal" sciences, but he classifies it resolutely with esthetics, ethics, and religion itself, all these different branches ultimately aiming at realising "the communion of all intellects,"—whereby they may be considered as together forming a branch of sociology.

It remains to be said with regard to sociology that M. Goblot defines it as "a science of general services, both gratuitous and for a compensation." The classification of services, as proposed on

page 212 of the book, may possibly be regarded, he says, as an aperçu of the plan of future sociology; this last part of his work, although its discussions are always interesting, may profit by being re-elaborated, but upon the whole and despite a few defects, it is one of great excellence.

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The work of M. ALFRED ESPINAS, *La philosophie sociale du XVIII. siècle et la Révolution*, is a book on which I should like to speak at length. This work, which is the substance of a course delivered by M. Espinas at the University of Paris, is replete with sound erudition and wise reflection. It is a conscientious work, written in a noble style, in which are unrolled before our eyes the great crises of history which were marked by the affirmation of socialism as a doctrine, and of which the French Revolution and the revolutionary storms of 1848 were the last expression. In opposition to those who see in the French Revolution an individualistic movement, engendered by an individualistic philosophy, M. Espinas does not hesitate to discover in it the practical application by illegal means of the equalitarian philosophy which made its appearance in the eighteenth century, and which implied a collectivist theory of the rôle of the state. He carefully notes the effective consequences of this theory from Mirabeau to Robespierre and Babeuf. Babouvism is not for M. Espinas a freak of history, an accident; it is the natural culmination and last expression of Jacobinism.

It certainly would not be exact to say that the laws which have been bequeathed to the assemblies of the Revolution are laws of socialism; but these laws were not promulgated until the ancient proprietors had been dispossessed, and the upstarts had been invested with their spoils; and these laws are the echo rather of the appetites of the newcomers than of the equalitarian ideal of pure Jacobinism. It would not be exact to assert that the movement of 1789 has done no good by any of its undertakings, and M. Espinas is far from making such an assertion; but he does not ignore the fact that what good the Revolution did do could have been satisfactorily done without it; he belongs, if I am not mistaken, to that

class of historians of whom Alexis de Tocqueville remains the master with his beautiful work, *L'Ancien Régime et la Révolution*, and who have cast off the bonds of Jacobin fetishism, and so been able to comprehend and render sound judgment on the events of the last century.

After the rather lengthy examination which I have given these three important works, I shall restrict myself to a mere mention of the following: *Les Pensées de Tolstoï*, translated by M. Ossip Lourie; *Contributions à l'étude de l'hérédité et des principes de la formation des races*, by J. M. Harraca; *Sanctuaires d'Orient, Egypte, Grèce, Palestine*, by Edourd Schuré (Librairie Perrin).¹

PARIS.

LUCIEN ARRÉAT.

PHILOSOPHY IN JAPAN.

Tetsujiro Inouyé, professor of philosophy in the University of Tokio, read a paper on the philosophical development of Japan before the International Congress of Orientalists at Paris, in his capacity of official delegate of the Japanese Government, and we welcome its publication in the *Hanseï Zasshi*, because the history of Japanese philosophy is little known outside of the Flowery Kingdom. Professor Inouyé is known as the best authority on the subject; he has enjoyed all the advantages of a Western education, is thoroughly versed in German philosophy, and quite at home in the philosophical world of England and France.

According to the prevalent opinion, there is no originality in Japanese philosophy; but Professor Inouyé insists on the fact that although the first impulse to philosophising came from abroad, being given by Confucianism and Buddhism, the treatment and further development of these great philosophical and religious movements were carried on in an independent way and produced original thinkers in Japan. We trust, however, that he would nevertheless allow that the first period of Japanese philosophy has been concluded, and that from the present day a new epoch begins. And

¹ The other works mentioned are published by F. Alcan.

there are good reasons to hope, if we may be allowed to express our own opinion, that the philosophers of the Japanese middle ages will be eclipsed by the philosophers of future days.

The first impulse was given to the philosophy of Japan through a study of the commentaries of Shushi 朱子 (Chinese pronunciation, *Chu-tsz'*), the most eminent among the later Chinese philosophers who lived A. D. 1130-1200. He is the classical expounder of the doctrines of Chinese antiquity, and he impressed upon China his interpretation of Confucius and of the old mythical traditions concerning the ultimate ground of existence.¹

The First Japanese thinker who became acquainted with Shushi's system was Fujiwara Seigwa 藤原惺窩, who lived 1565-1619; he was high priest in a Buddhist temple at Kioto, and was soon convinced that his religion which preached the renunciation of all family relations was wrong; accordingly, he renounced his faith and became an adherent of Confucius. His most famous disciple was Hayashi Razan 林羅山, who distinguished himself mainly by applying the principles of Shushi to the domain of instruction, and succeeded in introducing them as principles of education into the schools of the government.

We may add parenthetically that the old Chinese philosophy is based on the conception of the Yang 陽 and Yin 陰, which are the positive and the negative principles representing the male and the female, heaven and earth, light and darkness, etc., etc., and are commonly represented by a continuous line thus — and --. The Japanese pronounce the two words *Yo* and *Yin*; the dualistic method of Yang and Yin was systematised into a monism first by Cheu-tsz' 周子 and then by the above-mentioned Chu-tsz' 朱子.

A new and a different line of thought was struck by Nakaé Tōju 中江藤樹 (1608-1678), a follower of the Chinese philosopher Ōyōméi 王陽明 (or as the Chinese called him, 王陽明 Wang Yang Ming), a man of great versatility and unusual breadth of thought, who lived from 1472 to 1528, under the Ming dynasty. For the

¹ For further references, see *Chinese Philosophy*, by Dr. Paul Carus, Religion of Science Library, pp. 30-35.

benefit of readers not versed in Chinese philosophy, we may add that Ôyôméi (Wang Yang Ming) attempted to reconcile Buddhism with Confucianism in a way quite analogous to that of the Christian sage Thomas Aquinas, who in his day undertook to show the compatibility of the Christian faith and the Aristotelian philosophy, thus combining the religious sentiments of his age with the highest authority of worldly philosophy as then understood. Yet we ought to add that while Thomas Aquinas remained a monk and a saint, Ôyôméi (Wang Yang Ming), was rather inclined to cultivate the practical side of his philosophy, for he distinguished himself as a public magistrate, serving his government in the capacity of governor of several great provinces, and gathering laurels as a victorious general in dangerous insurrections. In 1518 he subdued the rebels in Kiang-si, and in 1527 he punished the savage mountain tribes of the northern Kwang-si provinces.¹

Nakaé Tôju, an admirer of Ôyôméi (Wang Yang Ming), was not only a distinguished author, but, true to his philosophy, which declares that knowledge and action, philosophy and morals, religious conviction and science, should be at one. He led a life without reproach and is counted among those rare sages who are considered models of moral life. Being a native of the province of Ômi, he is frequently called "The Sage of Ômi."

Among the disciples of Nakaé Tôju are mentioned: first, Kumazawa Banzan 熊澤蕃山 (1619-1691), distinguished as a scholar and diplomat; secondly, Miwa Shissai 三輪執齋 (1669-1744) the author of an exposition of Ôyôméi's philosophy, the "Denshûroku," 傳習錄 which means "Record of transmitting practical morality"; and thirdly, Ôshiwo Chûsai 大拙中齋 (1794-1837), who is to be mentioned later on.

The school of this great Chinese philosopher, Ôyôméi (Wang Yang Ming), founded in Japan by Nakaé Tôju, has always played an important part in Japan through its influence upon the higher and better educated classes of Japanese society.

A third school of Japanese thought was started by Yamazaki

¹See No. 618 in *Mayers's Chinese Reader's Manual*. p. 246.

Ansai 山崎闇斎 (1618-1682), who was educated in a Buddhist monastery, and became the founder of a new conception which in principle is the most particularly Japanese philosophy possible, for he inclined toward spiritualising the native religion of Shintoism, and became the founder of a new Shintoist sect called the Suiga-shinto. Educated at a Buddhist monastery, he was once with his brother monks engaged in a deep discussion of philosophical topics at night-time. Suddenly his fist came down on the table and he broke out into tremendous laughter. When asked why he laughed, he answered, "I laugh at the extravagance of Çākya." He had been set to thinking about the underlying philosophy of Buddhism by the doctrine of Shushi (the Chinese Chu-tsz'). If in a Christian country a monk of the Middle Ages had behaved in this way, he would probably have ended in the fire of an *Auto da Fé*. Not so our Japanese monk. He soon abandoned Buddhism and became converted to Confucianism, which, however, failed to satisfy him, and he therefore gave himself up to the study of Shintoism, the nature worship of the ancient Japanese, which he tried to explain philosophically from the standpoint of Shushi's doctrines. After his death, his school divided into three parties, one headed by Asami Keisai 淺見綱齋 (1652-1711), one by Miyaké Shōsai 三宅尚齋, and one by Satō Naokata 佐藤直方 (1650-1719).

A man of great originality is Yamaga Sokō 山鹿素行, who in his capacity as a general introduced a new military system which, after his name, is called the method of Yamaga. Originally the disciple of the above-mentioned Razan, he followed the doctrine of Shushi, but he abandoned his former course and burned all his books, publishing in their place an abridged statement of his philosophy under the title "Seikiōyōroku" 聖教要錄, in which he criticised certain phases of Shushi, without being able to free himself from its main principles. This change in his views became an event in his life, for he was banished from Yedo by the government. He fled to the province of Banshū, in the principality of Akao, where the reigning prince, Nagatomo, received him hospitably and respectfully. Here the exiled philosopher became the teacher of Nagatomo's children, and also of the chief, Ōishi Yoshio, who plays

a very prominent part in the history and legends of Japan, being that nobleman whose forty-seven retainers avenged his death. As common criminals, they would have been handed over to the hangman, but they were allowed to end their lives by the *hara-kiri*, the famous punishment of suicide which is allowed only to noblemen of rank. The generous treatment of these brave men, and also their attachment to their chief, Ôishi Yoshio, which was well merited by his kindness and justice, may be attributed to the philosophy of Yamaga Sokô, who exercised no little influence upon the thoughts of all these people.

As to the philosophy of Yamaga Sokô itself, we see little or nothing that differs from the views of Shushi (Chu-tsz'). His originality appears perhaps more in his manliness and in the practical application of his moral principles. Professor Inouyé characterises his doctrines as follows: "According to Sokô, the world is the great visible realisation of the two fundamental principles, Yin 陰 and Yo 陽; it is not the product of a creator, but is as it is by necessity; it will continue to exist forever; that is to say, the world is without beginning and without end; there is a constant new formation, and the development is continuous; when one thing is destroyed, another thing begins to exist at the same time. Therefore, there is not a real end, or rather, existence is only a becoming." As to his morality, Professor Inouyé continues: "The principle of morality is not different from the principle of the world. What, accordingly, is the principle of the world? It is the natural law according to which all live without knowing it; those who know it and conform to it consciously are the sages. As to the principle of morality, we must recognise and distinguish humanity from justice; as in humanity there is no limit, we must understand the importance of justice, for only through justice can we know to what extent one ought to practice humanity. The difference between a noble and an ignoble being rests in that which is made the end of life, which may be either justice or personal enhancement. The noble man seeks his personal interest in justice; the other, on the contrary, knows no other justice except personal interest."

Another philosopher of great independence and originality, is Itô Jinsai 伊藤仁齋 (1625-1706). Starting from the Chinese doctrines of the Yin and Yô, he proclaimed that the world principle is primitive energy, which appears in a dual form as the ideal principle called Ri 理, and the material principle called Ki 氣. His monism is more materialistic than idealistic, for he claimed that "The material principle is not contained in the ideal principle, but on the contrary the latter is encompassed in the former." As to his morality, Itô Jinsai starts from the Shushi doctrine, that man's nature is in its origin absolutely good, and that it only will change through the manner of living; but, instead of advising a return to the original nature, this Japanese disciple of the old Chut-sz' insists on developing the character according to the principles of humanity and justice. His moral principles have contributed much to the enterprising spirit of the present generation, which sees a possibility of amelioration in the future and would not countenance the reactionary maxims which are so prominent in the doctrines of Chinese philosophers. Jinsai's treatment of philosophy, we are told, is almost modern, and shows much power and independent thought.

The greatest disciple of Itô Jinsai was his son, Itô Tôgai 伊藤東涯 (1670-1736), who as a scholar, although not as a philosopher, is considered greater than his father.

The David Hume of Japanese philosophy is Kaibara Yekken; 貝原益軒 he was known during life only for certain methods of instruction which he introduced into the Japanese schools. He was distinguished by great modesty, and became celebrated as a philosophical writer only after his death through his remarkable book entitled, *Taigiroku* 大疑錄, which means "The Great Doubt." Starting from the philosophy of Shushi, he began to lose faith in his methods, especially as to the doctrine of the ideal and the material principles, the Ri 理 and the Ki 氣. He said: "In the world there is only Ki, that is, energy, which exists in a state of continual transformation; the two opposite principles of the Yin and the Yô are found in this active current of energy. When we consider the ways of this energy which, soon becomes Yin and soon Yô,

we call it Do 道, or reason" (the Chinese 'Tao'), which is the method of man. If, on the contrary, it is regular and well ordained, we call it Ri, or the ideal principle. But the Do and the Ri are one and the same thing in reality; and it is an error to consider them different. The Ki and the Ri too are one and the same. We should distinguish them only as being views from different standpoints, and we must not speak of their separation or combination. But the Ri 理 (the ideal principle) exists only as an attribute of the Ki (the energy)." Yekken, accordingly, makes Ki 氣, or energy, the first principle, declaring that the Ki is the essential thing in the world and the source of all existence.

As to the problem of morality, Yekken appreciates as the main virtue sincerity of heart 真心; the Shushi doctrine sees in deference or obedience the main virtue, and enjoins that the sentiment of deference must be the basis of all actions. Yekken, on the contrary, asserts that deference is only a means to attain the highest virtue, which is sincerity of heart.

Butsu Sorai, or Bussorai 物徂徠 (1666-1728), drew his inspiration from Jinsai, the materialistic monist mentioned above. He does not enter into the cosmological or ontological problem, but confines himself to the question of morality. And here he takes a peculiar stand which in some respect resembles the views of the English sensualists of the eighteenth century and their successors. He criticises his predecessor, Jinsai, for believing that morality develops internally through the inner sense of conscience. According to Bussorai, the moral law would originally exist neither in the heart nor in nature; but it is nothing else than a product of our wise men; and he declares that to govern accordingly is the business of the sovereign, and to obey it is the business of the people.

The last philosopher to be mentioned is Ôshiwo Chûsai (1794-1837). He belongs to the school of Ôyôméi 王陽明 (Wang Yang Ming), but he expounds the doctrines of his master in quite an original way. He distinguishes between the macrocosm and the microcosm, making the former the prototype and the latter, as its production, finding the essential quality of the macrocosm in the principle of the great void 太虛, which he identifies with the prin-

ciple of heaven. This principle exists in the bamboo as well as in the stone, and it is practically the same when we find it as the great void in ourselves, which is called the *heart* or *soul*. It matters little whether we say that the body is enclosed in the heart, or *vice versa*, the heart in the body; both statements are only metaphysical contrasts; there is in reality no difference. The great void is outside in the body and inside in the heart, and the one as well as the other is nothing else but the principle of heaven. Heaven, therefore, is not only outside, but also inside. In fact my heart is heaven, and all things are contained in the heart. If the heart is free from all base desires, the great void is present in the heart undefiled, which is then called spiritual purity; if the heart is full of base desires the great void is not present, and the heart will then be unable to receive the truly good things of the world. Those men whose hearts rest constantly in the void are the sages, and they can with their greatness of mind guide and support even the vulgar, while the latter cannot endure the sage.

We must add that Chûsai is in some respects also a social reformer; at least he showed his sympathy with the toiling masses by voicing their complaints and trying to improve their social conditions. Having expressed during the famine his dissatisfaction with the Government for not distributing to the starving populace either money or food, he made an appeal in their behalf, but was not listened to. To relieve the poor he joined a conspiracy which was discovered. Having gathered his partisans, most of whom were his disciples, around him, he was attacked and vanquished by the soldiers of the Government, and had to flee for his life. When discovered, he burned himself, together with his son, and died a martyr of humanity.

In a final review of this galaxy of Japanese philosophers, Sokô, Jinsai, Yekken, Sorai, and Chûsai, we are struck with the observation that none of them dared openly to disavow Confucius himself; all of them considered him a model of philosophy, and even when they disagree with his doctrines regard themselves merely as expositors of his views.

There is little metaphysical speculation among the thinkers of

Japan ; most of them are practical and do not leave the solid ground of the realities of this life. There have been Shintoists opposed to Confucianism,—such men as Motoori Nobunaga 本居宣長 and Hirata Atsutané 平田篤胤, who showed a hostility to foreign doctrines, and endeavored to establish a peculiar Japanese philosophy, but upon the whole Confucianism remained the creed of all the philosophical schools; the influence of Buddhism was enormous, but it remained limited to the religious life of the nation, and left all civil instruction to Confucianism.

As to the future of Japan, we have only to add that the present is strongly under the influence of Western civilisation, among which during the last period German philosophy was perhaps most influential.

We conclude by saying that Professor Inouyé is not only a scholar, and perhaps the greatest authority on the philosophical development of his country and of China, but also an independent thinker¹ who may now be considered the main representative of the national philosophy of Japan.

P. C.

¹Most of his essays appeared as contributions to *The Tekugaku Zasshi*.

CRITICISMS AND DISCUSSIONS.

"THE UNMATERIALITY OF SOUL AND GOD."

A REJOINDER TO AN ARTICLE BY THE EDITOR, DOCTOR PAUL CARUS, IN THE APRIL
Monist.

Under the above-quoted title, the editor, Dr. Paul Carus, contributed to the April number of the *Monist* a very able article in reply to a criticism of his views by the present writer. So large a field has he covered, and so thoroughly, that a complete reply cannot be compassed within the limits of a magazine article. This article must, therefore, be confined to the discussion of a few questions only, of the many raised by "The Unmateriality of Soul and God."

It would appear that we must follow Dr. Carus to his conclusions, if we grant his premises. But it is in fundamentals that the most unwarranted assumptions of modern science lie,—assumptions which the Doctor seems to have accepted as unquestioned data of reasoning.

The scientist defines matter and attributes to it certain properties, such as gravity, and molecular attractions and repulsions. From the broadest inductions he can make, these properties are assumed to be necessary and immutable. Yet Newton, and other philosophers, both ancient and modern, saw the absurdity of assuming action at a distance, across void space. To explain action at a distance, science has assumed an all-pervading ether. In no other way can it explain gravity, molecular attractions and repulsions, and the transmission of radiant energy, as light, heat, and electricity. Just what the constitution of matter and the ether must be to account for the so-called properties of matter and the phenomena of nature is yet an unsolved problem. But it appears as a logical necessity that the properties of matter must depend, not only on the constitution of matter but of the ether as well. It follows, therefore, that any change in the constitution of matter, the ether, or in the relation of matter to the ether, must result in a change or variation of the properties of matter. The ether is not necessarily infinite in extent; and beyond the limits of our ether may lie another of different constitution, enveloping matter also of different constitution and properties from that of our universe. And since radiant energy cannot traverse void space, the sphere of influence of one

universe could not extend to another, except as their ethers come in contact or are in some way substantially connected. Again, the contact and mingling of the ethers of two differently constituted universes would undoubtedly upset the whole present order of nature. From these considerations it must appear that there is no inherent necessity in the laws of nature, even those most fundamental as known to man.

The only theory which has approximated to an explanation of the constitution of matter and its properties is the theory of vortex atoms. This theory, which has been worked out mathematically by Helmholtz, Sir William Thomson, and other mathematicians, is now quite widely accepted, since it alone attempts to explain, and in part does explain, what has hitherto been regarded fundamental and inexplicable. If this theory be true, then matter is create and destructible. The vortex ring, once broken, is resolved into the original fluid, the common substance of all matter.

Dr. Carus says, "matter is the sense-perceived." Very good; but the correlative proposition, that the not-sense-perceived is not matter, the Doctor seems not to accept. Neither the ether nor the original fluid of the vortex-atom theory offers any resistance to a body traversing them; they have not mass, as appears in matter by its inertia; they have no attractions and repulsions such as are observed in the gravitating and molecular forces of matter; they cannot manifest themselves in any way to the senses; they can appeal to reason only. They are not, therefore, matter in the sense employed by physicists; and in this discussion I shall confine the terms matter and material to the sense-perceived.

If spirit be compared to the ether or to the original fluid, the substantial essence of matter, spirit is not for this reason to be regarded as "attenuated," or made of a "nondescript gas" as Dr. Carus supposes. The ether and the original fluid must be regarded as substantial, even as much so as steel, or the densest of metals, platinum; since a body of matter is to be conceived as a congeries of vortices in the original fluid. Nor is it a tenable hypothesis, as he suggests, to suppose the atoms of matter to be mere condensations of the ether. Even if we suppose the ether to be millions of times more attenuated than hydrogen, itself more than fourteen times as attenuated as atmospheric air, the planets could not maintain their positions in their orbits, traversing such a medium with a velocity ranging from three to thirty miles per second. The frictional resistance of the ether would cause them to move in observable descending spirals toward the sun. We must premise the ether to be without mass, or inertia, or it fails; since the most careful observations reveal no resisting medium in the interstellar and interplanetary spaces.

The Doctor's soul of steel, which he prefers to one of "nondescript gas or ether," would be a very ponderous and inert one, indeed. Matter is tied down by gravity and inertia. To translate it in space requires force proportional to the mass, and time proportional to the square root of the distance. An "ether-soul" as substantial as steel or platinum could be translated in space instantaneously,

and with the application of an infinitesimal force; since gravity and inertia are properties of gross matter only, and can be no hindrance to the movements of an entity not material, nor constituted as gross matter.

The Doctor says, "energy is resistance and that which overcomes resistance." Now, I am aware that certain scientists have said it is only necessary to assume matter, ether, and motion to account for all phenomena. They have banished force from the universe. But they classify energy as potential and kinetic. The latter only is the energy which they can observe and measure; the former is merely a term to hide ignorance as to what has become of energy observed to appear and disappear under certain conditions. To illustrate the point which I wish to make: Suppose there be two bodies only in the universe, of equal mass and in contact with each other. Let them be set in motion in opposite directions with a velocity just sufficient to overcome their gravity for each other. In obedience to physical law they will come to rest at an infinite distance from each other, at which distance their gravitating tendency will be zero. Query: What has become of the kinetic energy with which they started? To say the energy has become potential does not help us. At rest at an infinite distance from each other, and gravity nil, they will never return to their original positions to reproduce the kinetic energy with which they began their flight. To say that the energy is communicated to the ether is conceivable only with some such hypothesis as the "ultramundane corpuscles" traversing space in all directions with infinite velocity, as proposed by Le Sage; in which case the kinetic energy of the bodies would be found in the corpuscles which rebound from the anterior surfaces of the moving bodies. But the difficulties encountered in attempting to explain potential energy without the factor, force, are so great that it must be now regarded impossible; force is as necessary an assumption as matter, ether, or motion. And this force we must conceive as something distinct from matter and superior to it. Force we must premise as the antecedent cause; energy, the consequent. Energy is matter in motion; force, that which produces or destroys motion in matter. Take from matter the properties which we ascribe to it, and matter is no more; but still it is not vacuity; there is the substance (*sub stans*) remaining. And we can conceive of force applied to substance as creating and sustaining matter and the material universe.

Force must be one of the attributes of spirit; self-direction, or will, another; and consciousness, the third. The universal spirit, the universal self-directing power, or force, the universal will which directs all, the universal consciousness which knows all, must be none other than God. In these fundamentals the views here expressed cannot be widely different from those expressed by Doctor Carus.

Yet there seems to be a vital omission in the Doctor's philosophy, or in the statement of it. All that is objective and mechanical is given prominence; while the subjective is ignored or passed over as unimportant. I do not believe, as the Doctor erroneously attributes to me, that the soul is the "substance in which the system of ideas is impressed"; but, rather, that the soul is the creator, the impres-

sor of ideas,—that matter and ether, as well as the substance of the material, whatever that may be, are passive, inert, unconscious; while soul is active, self-directive, conscious.

Doctor Carus makes much of form; but form is objective, though not material. There are myriads of forms in the universe, and they represent truths which man's soul can perceive; but that they constitute soul his consciousness denies. The tracing of a geometrical figure upon a material surface cannot perceive, but is perceived by a percipient soul; the form is objective. The same form abstracted from the material and traced in vacuous space is none the less objective,—is inert, unconscious; and were there no conscious ego as percipient, that form is as though it had not been. Light is an objective truth, or fact; but if there be no eye, or sentient soul behind the eye, then is light as darkness.

The Doctor defines soul as "a system of motor ideas, i. e., of meaning-endowed symbols depicting the objects and relations of the surrounding world." It must be objected to this definition of soul that it is purely objective, utterly ignoring the subjective, conscious ego. The will calls up in memory ideas which we have had at various periods of our lives; but consciousness distinguishes these ideas from our proper selves—the ego. We contemplate them only as experiences, not as ourselves. To speak of ideas as "motor-ideas" does not help the matter, unless there is assumed behind and controlling all, the conscious ego, which is the motor, or mover. By no such objective explanation can we account for sentiency, will, consciousness, the three attributes of the ego which baffle explanation by any shifting kaleidoscope or concatenation of forms. The importance of form cannot be over-estimated objectively; but the former, the shaper, the creator, of form is something distinct and separate from any form or anything objective whatsoever; though it should be remembered that the ego itself, as an object of contemplation, becomes objective, the ego forming an image of self to become the object of contemplation of the real self.

The Doctor minimises the importance of the ego, the "thisness," the "preservation" of which, he says, "is not conformable to the laws of existence." If this be so, then the formed is of more importance than the former; the ego, or "thisness," which conceived and constructed the complicated machine, is comparatively unimportant, and the machine itself, the all-important. I am rather forced to the conclusion that the ego is all-important, that it overshadows infinitely every thing objective—or any particular "suchness." A work on geometry is full of ideas and valuable truths systematically arranged; but those ideas are no more a soul than the machine which I have constructed is myself.

The very laws of thought enforce upon us the conviction of a certain dualism—the "me" and the "not-me." If we could conceive a state in which there is but the one thing, or being, in the universe—a oneness in God, activity of the universal oneness must by that activity create an image, or object. We can conceive of the universe only as the objective of the duality of which God is the subjective. So

the human soul, which must be conceived as in essence the same as the universal spirit, but differentiated from it as a separate and distinct will and consciousness, cannot act without being a creator of an objective world for itself. In every mental process, from the lowest degree of sensation to the highest form of ratiocination, the mind has ever present two kinds of phenomena, which cannot be conceived as being in the same order of existence. Before everything else, and without which there can be nothing objective, the fundamental fact of all knowledge and existence is consciousness. It is subject, cause, self-existent creator. But no sooner is there consciousness than there must appear, as the necessary correlative, the object, whether it be material or immaterial, or no more than the mental image of self. It is the objective effect of a subjective cause—the necessary creature of its creator. This reasoning must apply to man and every sentient being, the finite offspring of the Infinite, as well as to the Infinite, or First Great Cause. If consciousness be, it must distinguish self, the percipient, from the perceived; self, the cause, from the effect, or caused; self, the contemplative subject, from thought, the conceived objective. The passing phantasmagoria of our physical environment impinge on the sensorium, inducing a succession of ideas; but the physical environment counts for nothing, if there be no ego, no soul, self-active in sentiency and percipency. And self-conscious and self-active will may cut off the external cause of idea-inducing environment and establish a new chain of ideas, independent of environment. It would seem, finally, from the point of view of the present writer, that monism as a philosophy can be possible only for those individuals whose training has been in the consideration of the external, material, and objective phenomena to the exclusion of the subjective and introspective. He who views matter, taking note of external phenomena only, sees but one side of the shield with the emblems engraved thereon; he who views by introspection sees a different set of emblems, apparently irreconcilable with those seen from the other point of view. There appears to be a reconciliation between these two orders of phenomena only in assuming a dualism of material substance and phenomena, and of spiritual substance and phenomena, both united in living beings, such as we know with material bodies. If you ask me to describe the essence or substance of spirit, I reply that it cannot be done; we can know spirit only by the phenomena which it presents to our consciousness. But in this respect we are as well off as in defining matter. Who can describe the essence of matter? Does it consist of hard, indivisible atoms, as proposed by Dalton? If so, how can we explain its numerous and seemingly impossible properties; its gravity and its molecular attractions and repulsions? Does it consist of the vortices of Helmholtz and Thomson? If so, what is the nature and the substance of the original fluid? What is the constitution of the ether, so necessary for the transmission of radiant energy? We strike the border-land of the unknown by investigation in one direction as quickly as in the other. The ultimate truth in either direction transcends human powers.

An immortality which consists in the mere preservation of our ideas would be

a kind of immortality, indeed, but not such an immortality as humanity everywhere longs for. Again, if the human soul at death be merged into the universal soul, the universal consciousness; this still is not such an immortality as the human mind demands. The soul, which has been created by God, differentiated from him, must maintain its identity, its self-will, its self-consciousness, to be immortal in the sense that man's religious nature requires.

If "the whole combination of man break down utterly at death," then can there be no immortality. But if the self-conscious, self-active ego be separable from its material habitation and capable of maintaining an independent existence, then is the immortality of the soul not only possible but probable. With this view the doctrine of successive incarnations and reincarnations from the remote past, as taught by Theosophists, is not absurd, though, doubtless, unverifiable and speculative. Nor is communication with the spirits of the dead impossible. I must contend, therefore, that the ideas of such religionists cannot be cast lightly aside as infantile and lacking philosophic basis. It is not quite fair to say that believers in a spirit substance are so because of their lack of intellectuality. Wallace, Crookes, Lodge, Sedgwick, James, Hodgson, and many others in the very first rank of scientists, both in this country and in Europe, can scarcely be charged with lack of intellectuality. Camille Flammarion has also made a wide reputation both as a scientific observer and as a literary man. They are all believers in spiritualism, i. e., in a spirit substance superior to and independent of matter. And these men have come to their conclusions after many years of painstaking and careful investigation of psychic phenomena, by the true scientific method, the inductive process. Those who have not investigated psychic phenomena, and those who have investigated but superficially, are not in a position to pass judgment upon such phenomena, and the possibility of a soul independent of and separable from the body.

Notwithstanding the Doctor's scepticism in this direction, I believe there is a great field for investigation in hypnotism and spiritualism. It is true that hypnosis is but a modified form of ordinary sleep; the one artificially induced and controlled by suggestion, the other naturally induced, the condition of alter-suggestion being to a large degree absent. Yet, that the mind in normal sleep is to a certain degree controllable by suggestion, is shown by the direction given to dreams by the environments of the sleeper. Slight noises or movements in the room may induce dreams whose character is determined by such noises or movements acting as suggestions. But the mind of the sleeper is more completely controlled by suggestion in hypnotic sleep; and, for this reason, hypnosis is far more favorable for psychological experimentation than normal sleep. That one person, by mere effort of will, may call another who is miles away, is not, perhaps, evidence of spirit translation in space; and Doctor Carus would say, perhaps, is not remarkable, knowing what we do of telegraphy and telephony. But the phenomenon is now certainly beyond explanation on physical principles. To direct a subject in a state of hypnosis to go to a distant place, where he has never been, a thousand miles away,

and to make a careful examination of the premises, the persons there, and what they are doing, and then to get an immediate report, which no one present with the subject knows to be true, but which is afterward verified, can seemingly have no explanation but in the independent action of the spirit from the body. Other experiments, carefully made and repeatedly verified under test conditions, by investigators above the suspicion of fraudulent intent, seem to have established beyond a doubt that the soul can translate itself in space instantly, and that space and material obstruction are no hindrance to its action. And if the soul can leave its body in a state of rigor approximating death and go from place to place on this planet, actually report what it sees, and requiring no appreciable time for its translation from one point to another, however distant, it furnishes indubitable proof of the soul's independence of the body. While the phenomena of hypnotism and spiritualism are now scarcely to be separated and distinguished from charlatanism and fraud, throwing doubt upon the matters sought to be proved by them, for that reason; yet, such has been the history of other sciences. From the quackery of astrology has come the exact science of astronomy. The alchemists, with little truth and much deception, have given us one of the most useful and wonderful of sciences, chemistry.

It is proper for me here to say that I have made but slight investigation of the phenomena of hypnotism and spiritualism; and for this reason I hesitate to deny, and am more inclined to believe, when such a brilliant array of scientists as make up the London Society for Psychical Research, and its American branch, testify uniformly to the truth and character of the phenomena, though differing somewhat as to the explanation of them; and when, too, many of the investigators have come to their conclusions after more than thirty years of careful investigation. These phenomena should be investigated in the true scientific spirit and method, under strict test conditions; and then, if what investigators have apparently shown to be true become established truths, they are most important. For they will show the soul's power to exist independently of the body, and will give probable evidence of the soul's immortality as a conscious ego.

And now a few words as to the philosophy of evolution. As taught by ultra-materialists, it is the most absurd unreason. From the primitive atom to man, the final link of the chain, it is a series of assumptions. It assumes the atom and its properties; it assumes motion; it assumes regular and mathematical arrangements of atoms in molecules; it assumes life, sensation, consciousness, and will, in succession,—and these without a sufficient reason upon which to base such assumptions. It finds certain facts and correspondences, notes the *modus operandi* of nature, arranges the phenomena into a series, and says: "See; so things become, according to law." Its advocates apparently do not see the absurdity in assuming, continually, effects greater than the causes producing them. To assume God to be the law, the form in which things shape themselves, does not remove the difficulty. If evolution be accepted, it must be merely as the mode of working of an infinite,

all-wise, and all-powerful Creator,—a God immanent in nature, by whom all things exist and are upheld, and in whom all creatures live, move, and have their being. Evolution as a mode of the Creator may be a tenable hypothesis, and will doubtless be proven true in some form; but it can teach us nothing of the causes which underlie nature; it may give us the "how," but is silent as to the "why." The old question of the ancients, "Which was first, the egg or the hen?" is as pertinent to-day as ever. The difficulty is not eliminated, though it may be obscured, by separating antecedent from consequent by an infinite series of means and by infinite time. *Ex nihilo, nihil fit.*

I would say in conclusion, that it is possible that I have misunderstood some of the views expressed by Doctor Carus in his article; and, if so, allow me here to disavow any intention of misstating his position. Some statements, indeed, I have been unable to reconcile as consistent with other positions taken. For example, he says:

"When we understand whence we come we learn also whither we shall fare. We come from the souls of the past, and our soul will continue in the souls of the future. There is the same identity between the souls of the past and the future as there is between the soul-life of my own yesterday and of my own to-morrow. There is a continuity of form, and there is a preservation and transference of the various particular forms which constitute our suchness, our character, our personality. Former souls are not strangers to me. They are soul of my soul and parts of the same spirit-life which at the present day pulses in my brain. Nor shall I remain a stranger to the souls to come. There, within the souls of future generations, not somewhere in the sky, is the kingdom of God of which Christ spoke. Heaven is not local, not material, but spiritual. In the soul-life of mankind are the mansions in which there is room immeasurable for all of us. There we shall be preserved with all our peculiar idiosyncrasies in our personal identity."

If consciousness and memory be extinguished at death, how can there be the "same identity between the souls of the past and the future that there is between the soul-life of my own yesterday and my own to-morrow"? As applied to individuals, this would seem impossible. If applied to nature or a people as a whole, it would likewise seem impossible. I can imagine something of an analogy between the birth, growth, decay of a nation or people and that of an individual; but it is a mere analogy. I cannot imagine a national consciousness, except in a figurative sense, as applied to the sum of the individual consciousness of all the members of the state. Likewise of memory and will, as applied to national life,—the mere synchronous action of individual wills and consciousnesses. And that "we shall be preserved with all our peculiar idiosyncrasies in our personal identity," seems inconsistent with the destruction of consciousness, will, and memory, the very essentials of personality.

CHARLES H. CHASE.

IN REPLY TO JUDGE CHARLES H. CHASE.

Judge Charles H. Chase enters into a great number of questions of physics and metaphysics into which I do not dare to follow him; nor do I care to, for these questions have nothing whatever to do with the philosophical problem as to the

nature of God and soul. We may define matter as the sense-perceived, and in that sense would have to deny the law of the conservation of matter. For we can very well understand that this crude sense-perceptible material, viz., gross matter, has originated by condensation from some thinner material, such as we understand ether to be. Whether or not the ultimate unit of material bodies can be analysed into atoms, I do not know. I have my grave doubts as to the existence of these philosophical atoms. I only know that the atom of the chemist is a unit representing the proportions in which the elements combine. The chemical atom as an arithmetical unit of proportion is an undeniable fact, but the philosophical atom as a concrete little body, be it in the shape of a mathematical figure or of an ether vortex, is a pure assumption which for certain purposes recommends itself, but is after all purely fictitious and a product of the scientific imagination. I am very careful to avoid all these hypotheses of modern science, and if ever I should introduce them I would do so only as illustrations or as statements subject to revision.

However careful I try to be in avoiding positive statements concerning hypothetical physics and fictitious metaphysics, I would not hesitate to reject such traditional views of matter and spirit as reify abstract terms, by distinguishing between imaginary things-in-themselves and the properties with which these things are said to be endowed.¹ Judge Chase believes that when we take from matter the properties which we ascribe to it, matter would be no more, but still he adds, "there is the substance (*sub-stans*) remaining." Similarly Judge Chase believes force to be some independent thing different from energy of any kind, and this force is mysteriously supposed to be the cause of motion, whatever that may mean. My views of physics are so radically different that I should have to stop Judge Chase on the definition of almost every word he uses.

The main question on which every religious and philosophical difficulty hinges is the nature of the ego. I am far from minimising the importance of the ego. But I understand that my conception of the ego differs from that of Judge Chases, and I must insist that the importance of the ego is not constituted by its mere concrete existence, by its "thisness," but by its character and nature, viz., by its "suchness." Whether or not an ego or a human personality has any moral worth or not, depends on the motives by which it is swayed and the purposes which it pursues. That is to say, the worth of any personality depends on its form, and form is suchness, not thisness.

Consciousness, no doubt, is, as Judge Chase claims, "the fundamental fact of all knowledge." But consciousness is not an unanalysable fact. Consciousness is of a greatly complex nature; and the subjectivity which appears in consciousness is undoubtedly too of paramount importance; but we can learn to appreciate the nature of consciousness only by studying the objective forms of which the subjective processes of consciousness are concomitant phenomena. Introspection is

¹ See the author's article "On Things in Themselves" in *The Monist*, Vol. 2, p. 225.

very valuable for a comprehension of objective events. But *vice versa*, observation of objective phenomena is the best method for acquiring a clear interpretation of our own subjective nature.

The main contention of practical importance of Judge Chase is that "one person by mere effort of will may call another who is miles away"; that he can transfer his soul and examine carefully distant premises, etc., etc.; in a word, that phenomena such as have been investigated by the members of the Society for Psychical Research are taken for granted. Here I cannot follow Judge Chase and can only say I must wait until some actual evidence of such facts has been forthcoming. All I can say at present is that all the cases which I took the trouble to investigate were either founded on insufficient evidence, or were made by men who, judging from the accounts, were themselves obviously uncritical. Even famous men such as Wallace, Crookes, and others, have occasionally developed an astounding credulity. The best cases that have come to my knowledge are instances of palpable self-delusion in which chance coincidences enter now and then.

I conclude these remarks by stating that I should have to repeat an exposition of my whole philosophy in order to show all the differences which obtain between my own views and Judge Chase's arguments. If we understand the "how," we know the "why." There is no other "why." The question as to the priority of the egg and the chicken has in my opinion been answered long ago and does not contain any metaphysical puzzle;¹ that the effects should be greater than the causes producing them is quite natural as soon as we understand that the law of causation is a law of transformation. The equation between cause and effect is merely an equation of the total amount of matter and energy before and after, but it is not an equation between the worth of the product and the labor by which the result has been gained. It is true that the stream cannot rise higher than its source, but it is also true that evolution is not a stream, for evolution is constantly rising higher and higher. The labor of the present generation is added to former generations and thus an actual progress is produced in the most natural way.

It may or may not be that Judge Chase has misunderstood some of the views expressed by me in former articles, but one thing is sure that unless he understands the makeup of our present consciousness from the soul-life of the past, and unless he realises that we to-day are the product of the exertions of past generations, he will not be able to understand how the present will continue in the future as an indelible factor of all the times to come. So long as he still adheres to his wish of having a soul that consists of spiritual substance I do not venture to expect him to appreciate the deep importance of the preservation of the soul in the sense in which I understand it. So long as his conception of the soul is its thinness, not suchness, and its existence as a substance, he will not appreciate that the preservation of its suchness will involve the preservation of its idiosyncrasy and personal identity. P. C.

¹ See *The Open Court*, No. 31.

THE PERSONALITY OF GOD.

I was very pleased to see in the October, 1897, number of *The Open Court* a brief notice of some of my criticisms of your views, and I am very sorry that both my work and domestic matters have deprived me of the opportunity of replying before now. There is a very great deal that I would like to say. But I feel that my only chance of finding opportunity to reply at all is in limiting myself strictly to the question at issue.

You are willing to "grant the possibility of the animation of the universe with an ego-consciousness such as is assumed in" my proposition referred to by you, but you would call it, not God, but Brahma, world-soul, or great spirit; and yet you maintain that it would be subject to God. Or if this world-spirit is to be called God, then you maintain that there is something higher than God, and the belief in God is a matter of small concern. *Your God is Law.*

Our difference is to some extent a mere difference in the use of terms. I lean more to the Pantheistic conception of God than you do. The world-consciousness is subject to law, of course. And so is mine. God acts by law. And so does every man. A man's law by which his actions are governed is his character. And all God's behaviour is also of a very definite character.

But I do not limit the term God either to the world-ego and say that this world-ego is yet subject to universal law—neither do I apply the term exclusively to the universal law, and say that that is above all things. My God is both law and ego together. We see in man that his actions appear to be controlled by a conscious power, though that power itself works according to law. Why not in God also? Why divorce activity from consciousness in the macrocosm when in the microcosm they are inseparably united? I, Wilkinson, am not merely the laws that govern my actions, I am the conscious being also. I am I. And what is God? I am that I am. You may say that law is the superior part of my being; but it nevertheless is but a part, it is not the whole. And so with God.

* * *

The belief in Brahma or the world-soul is, you say, a matter of small concern. Be it so, for the sake of argument. It is nevertheless a question of fact. The question is—what is God? what are the attributes of God? Is there law only? or is there consciousness as well?

The answer to this will, I feel, be found in the answer to the question, what is man? And there is one venerable old stumbling-block and one only which obscures the solution of both questions.

What is the relation between man's consciousness and man's actions? Has man's consciousness any power to interfere in the events of his life? If consciousness plays no part in our life, then also we may conclude that the universe could get on quite well without it.

The question is one in which it seems to me there is no room for opinion at all. It is a question to be decided by exact science—by mathematics.

When we find by observation a particular and constant relation between states of consciousness and events that follow them—when we find in an infinite number of instances that an event occurs immediately after the idea of the event had been formed in the mind of a conscious being, then we are justified in inferring that consciousness is a true cause of events—is capable of originating motion. Perhaps the *reductio ad absurdum* argument is even more forcible—try to imagine that all the events of the human world would have taken place just the same if consciousness had not been there.

Mathematicians and scientists generally have objected to this conclusion because it seems to them to be inconsistent with their pet version of the principle of the conservation of energy. That, however, is apriorism—an attitude of mind to be eschewed by scientists.

It is coming to be admitted by scientists, despite their *a priori* convictions that the movements of the animal world would not go on just the same if they were not subject to the control and direction of consciousness. It is coming to be admitted that consciousness is not a mere spectator of a lot of movements which are altogether beyond its control. Are the physical processes, asks Tyndall, complete in themselves, and would they go on just the same if consciousness were not involved? And the answer from which hard-pressed science finds no escape is—"No!"

There is another circumstance which hinders the acceptance of this idea of the connexion between consciousness and motion. At first the idea seems almost unthinkable. And although the unthinkableness of an idea is no proof that the idea is not true, still if any truth does seem unthinkable it is as well in the interests of science to get that unthinkableness removed.

In this case, I think, the unthinkableness arises from a wrong *a priori* notion of what motion actually is. If we make mere motion our first fundamental idea and then try to imagine that consciousness is a mode of motion—it is unthinkable, we can't do it. But it is easier to imagine that it is a property of all motion to be in some relation to or connexion with consciousness.

The idea of *force* as a connecting link between the two ideas of consciousness and motion somewhat assists us in imagining the association of the two.

The common conception of motion is simply change of place, and, truly, in the abstract, that is all it is. But why should any matter ever change its place? Let us give up the idea that it is an inherent property of matter to move. Let us imagine that there can be no motion without force, that is, something to cause motion—that a world could not have any motion in it unless it also had in it something that could cause motion—some force, or forces.

Now it is not difficult to conceive that some force is will—i. e., the effective wish of some conscious being. A conscious being or soul exerts will-force, and

thereby causes matter to move. That statement is intelligible. It expresses relations between mind, matter, force and motion which are thinkable. We do not identify motion and consciousness. We merely say that they have something in common, namely force.

It is not thinkable that a body merely by being first in one place and then in another could become conscious. But given consciousness, it is thinkable that an entity possessed of consciousness could in virtue of that attribute exert a force so as to move itself from one place to another, or so as to impart motion to another entity. Mere change of place is nothing. Why should an atom or entity become conscious by being in one situation in space rather than in another. But suppose that this change from one situation to another cannot be brought about but by the exertion of some definite agency or cause of motion, some x , some entity that corresponds to what we call force. This altered conception of the nature of motion introduces a new factor into the events of the world. We have not merely matter, first in one place and then in another, but besides, a something that causes that change of position from one place to another and without which the change of position could not occur. Motion in the abstract is nothing. It is no distinct entity. To speak of matter and motion only is not to speak of two things, but of one, namely matter, now in one place now in another. We have merely a change of state on the part of the one entity, matter. But to speak of matter and force is to speak of two things—matter and somewhat else. Very well then, given the distinct entity called force, may it not have any other attributes besides the one of causing motion? We can conceive, for instance, of its having some connexion with consciousness.

But admitting this connexion between consciousness and motion, admitting that animal movements can be altered and controlled by consciousness, we cannot halt here. From this conclusion yet another inevitably follows. There is yet another concession which scientists will find themselves forced to make to spiritual philosophy.

If consciousness can control motion then consciousness and motion must have essentially something in common. And it would be unreasonable to regard animal movements as an altogether exceptional case—to suppose that the connexion between motion and consciousness which is apparent in animal organisms is something accidental and at variance with the general order of things. To have a consistent world-conception we must suppose that all motion is either directly or indirectly associated with consciousness—that it has something to do with it—or has had at some previous period of its history, and is capable at any time of being put in connexion with it and brought under its control—that all motion has in it something essentially mental—in short that there never could be any motion which was altogether a thing apart from mind, that in a world in which there was no mind there would in consequence be no motion, as the two entities are parts of one whole.

This is not to say that all finite objects, rocks, stocks, etc., because they are full of internal motions have therefore consciousness such as man has ; as you say, there is no consciousness in the planets as such. Yet in any grand system in which there is motion, we must infer that there is mind also which has something to do with that motion. No motion without mind—no motion but what has been and can be again connected with mind. And no mind but what produces motion.

This, to me, is *proof* of the existence of the cosmic soul—the great spirit—Brahma.

The only alternative theory is that some of the motion of the world is produced by mind, and that other motion never has had nor could have anything at all to do with mind. But this is contrary to monism ; it gives us an inconsistent world conception ; it involves an unwarranted multiplication of hypotheses—two kinds of motion. Either no motion at all has anything to do with mind, or all has.

The problem of spiritualism is to my mind, on its scientific side, principally a problem in mechanics. And it is from that point of view that I criticise the theories of all anti-spiritualists, including yourself.

I think I understand your position. Your God is law. Law governs the universe.

We have first the simple laws of mathematics—the multiplication table, the postulates and axioms of geometry. Then mechanical laws—the postulates and axioms and laws of the science of motion. Then physical laws—the laws of heat, chemistry, electricity, magnetism, gravity, etc. And finally æsthetic laws—or the laws of the operation of consciousness.

But let us just see what law is, from the point of view of mechanics.

Let us consider the universe, to start with, simply as matter in motion. Next we observe the various internal motions of the universe to be subject to certain laws.

Now if in any system of bodies in motion we find that the motions as a whole present a certain definite character—that they appear subject to certain definite laws or limitations and to constantly produce certain definite characteristic results—then we must infer (1) that those motions are subject to some controlling force or power and (2) that that controlling power itself is not dependent on those motions or a result of them, that relatively to them it is purely cause and not at all effect—what you call a *primum movens*—or rather the prime motor that is behind the *primum movens*.

This is a conclusion from which, to my mind, there is no escape; though you, in common as I know with most scientists and philosophers, object to it. But it strikes me with a force of conviction. I feel confident that it will always maintain itself against all attacks. I am not an apriorist. And yet one cannot but feel sometimes what Kant felt so strongly—the tremendous force of an *a priori* conviction. And I think in some cases it is simply the result of a sort of prophetic mental effort, an imperfectly expressed, embodied, or worked out process which exists in a con-

densed form somewhere in the back-ground of the mind—in short what Tyndall refers to as the scientific imagination : Still I want no man to accept proof on these grounds only—however confident I may be inwardly myself of being able to maintain my position. I will justify my confidence.

Now, if I understand you rightly, your contention is that in the case of the physical laws we have an instance of law, or determining influence, without any *primum movens* ; and therefore why not also in the case of consciousness. In its relation to mechanics,—in its relation, I mean, to the movements of bodies,—in the manner in which it determines motion, you place consciousness on the same footing as the physical laws. And you contend that the hypothesis of any *primum movens* is in either case unwarranted.

Now this absence of any *primum movens* in the various movements of unconscious matter is just the very thing that you scientists must prove. So far it is pure assumption ; and, to my mind, all indications are decidedly against it. The mere fact of the movements of matter being subject to any laws at all is to my mind proof that there is a *primum movens* somewhere.

It is true that reason demands that we should reduce the number of assumed causes of motion to the least possible. We must not assume anything more than is really warranted by observed facts. It is in recognition of this principle that philosophers have framed the theory, largely backed up by science, of the interchangeability of all the various forces of nature. We thus do not require a separate cause of motion for each observed physical law. We have not one cause of the movements attributed to electricity, and another cause for the movements attributed to gravity, and another for those which appear to be produced by heat, etc., etc. But all these apparent forces, or causes of motion, are reduced to one—namely motion itself. Heat, electricity, gravity, chemical attraction and repulsion, etc., are all regarded as merely modes of motion—not as causes of motion which are themselves independent of motion. They are most of them regarded as different kinds of ethereal vibration. They have, it is true, certain peculiarities which distinguish them from motion in general. For instance they produce phenomena of attraction and repulsion subject to the law of inverse squares. We have, however, no positive reason for believing that these peculiarities are not explicable as merely the results of motion, or that they do independently condition these motions.

But admitting all that—what is our position ?

We have not completely eliminated all such thing as first cause from the motions of matter. We have largely reduced the number of apparent causes by breaking down the distinction between mechanical laws and physical laws. But it is a false idea to imagine that this leaves us with nothing but matter and motion—matter and change of place—in short, matter only, now in one place and now in another.

It is very evident that there is matter and a very definite something else besides—not mere change of place, something more definite than that. There is this :

The changes of place are *still* subject to certain very definite laws. What about Newton's laws of motion? Why is it that to every action there is an equal and opposite reaction? Why on earth should there be? Where does the reaction come from? Is it caused by the elasticity of bodies? What then is elasticity?—why are bodies more or less elastic? Again, why is it that when elasticity is perfect the angle of incidence is equal to the angle of reflexion? What a coarse complicated jumble of assumptions there is in what passes among mathematicians as the proof of this theorem! There is no proof at all. The movements of matter are found by observation to be subject to certain laws, and it is also found that certain of these laws follow necessarily from certain other laws. But that is not proof. You may take any observed law as an assumption, and deduce the other observed laws from it. But some one of them has to be simply assumed; and whichever one you take, you have no further explanation for it—you have simply to accept it as a fact. In text-books of mechanics the law that the angle of incidence is equal to the angle of reflexion is deduced from the law that every action has an equal and opposite reaction (together with a few other assumptions), and the latter is regarded as too obvious to need demonstration. But it is not at all more obvious why every action should have an equal and opposite reaction than it is why the angle of incidence should equal the angle of reflexion. And we might just as well have started with the latter fact and have deduced the former from it. There is no proof in either case—merely different interrelated facts. The so-called proof of Euclid's prop. 32, book I. stands on a similar footing. All these little glossed-over flaws in our account of the universe point to the existence of hidden things that we know nothing at all about. And the hidden thing in the mechanical universe, to my mind, can be nothing else than your *primum movens*, with some distinct cause of motion behind it.

Something is hidden too behind the first and second laws of motion. What is inertia? Why should it take more force to move a large mass than to move a small one?

At what junctures that cause of motion comes into action, and what it is, might be hard to say. It is not necessary to imagine two distinct causes of motion, one that controls movements in which consciousness is involved, and one which controls movements in which it is not. The latter might be in some way more or less distantly or indirectly connected with, or related to, or arising from, the former. But in any case, the presence of law in the movements of the inanimate world, to my mind, indicates clearly the existence somewhere of some real cause of motion.

But again—let all that alone. Even suppose for the sake of argument that the *primum movens* and the first cause behind it *have* been eliminated from the movements of the inanimate world—how has it been done? Simply by breaking down the barrier between physical law and mechanical law—by reducing all the apparent forces or causes of motion in the physical world to motion pure and simple. If there is no *primum movens* or first cause in the movements of bodies under the in-

fluence of the hypothetical forces, gravity, etc., it is because all such movements are really simply the necessary mechanical resultants of previous movements of some sort in matter. That is the only way in which you can eliminate the *primum movens*. And the peculiarities of these movements can only be attributed to the extremely complex internal structure of these simple looking bodies, and the consequently extremely complex nature of the movements that result in these electric, magnetic, and other phenomena.

But you, for one, I know will not be prepared to explain away the apparent control of consciousness in the movements of conscious beings by any similar process of reasoning. You will not admit that the movements of all conscious beings are in some way, despite appearances, the necessary mechanical resultants of some previous movements of matter. To do that is to deny that consciousness has any control over the movements of conscious beings,—to deny that consciousness determines those movements in any way or has anything to do with them,—to place consciousness, as did Professor Huxley, in the position of a mere spectator.

It is impossible to lump consciousness in the same category with the hypothetical forces, gravity, electricity, heat, etc. The latter may be all mere modes of motion. But nobody can pretend to believe that consciousness is. Consciousness is not a hypothetical force. It is not a hypothetical anything. We do not assume its existence for the sake of argument. It is not an *x* that stands for the imaginary cause of some unexplained phenomena. Our knowledge of its existence is based on independent grounds. Electricity and the rest may all disappear into mere motion, but consciousness will not go into the melting pot. Consciousness is consciousness. We know that it exists. The word stands for a very definite and real idea. The question as to whether or not consciousness is a force—i. e., controls motion—is quite a separate question altogether from the question of its real existence. And to the former question there can be only two answers,—yes or no. There is no wriggling out of the dilemma. And the many who will persist in trying to do so only make—I say it wholly in sorrow—unedifying spectacles of themselves,—instance, Professor Lloyd Morgan in his article on "Animal Automatism and Consciousness" in the October number of *The Monist* for 1896.

I think people have only got to realise how narrow the issue is to make them choose what I should call the right horn of the dilemma,—i. e., not the wrong one. It is because they do not realise this that they invent all these hollow theories which seem to avoid the question. Professor Huxley and Antonio Llano are, I believe, the only men known to fame who have been brave enough to decisively choose the wrong horn. And even Huxley still retained ideas which were inconsistent with his choice. And I doubt not Antonio Llano does too. In my opinion he was rewarded for the honesty of his choice by a victory over you in your discussion with him on the possibility of ethics. Yet I cannot believe that any man would not draw back when he fully realised where the wrong choice led him to.

And to the man who can see, all the seeming difficulties and objections vanish

away like mist. The principle of the conservation of energy is not at stake. The amount of energy in the universe is still constant, because it is infinite. It appears to us in two forms: (1) Force, which is an attribute of the conscious principle in the universe, whatever that is; and (2) *vis viva*, or mv^2 , which is a property of moving matter. No additions or subtractions caused by a transfer from one to the other can make any difference to either, because both are infinite. We all have constant evidence every day of the transformation of energy from form (1) to form (2); and for aught we know to the contrary there may be somewhere in some utterly unknown departments of the universe transformations from form (2) to form (1). But be that as it may; there is no escape from the conclusion that conscious beings are able to initiate motion. From that it follows that consciousness and motion are, in essence, indissolubly connected. And that is the proof that the God of the universe is more than Law. He is also Brahma—the Great Spirit—the World Soul. And, if by person we mean a being with definite feeling and knowledge and with will, then we have proved the personality of God.

And is the existence of Brahma a matter of no concern? I think I am willing to admit just about everything that you assert about God in your article on the Superpersonal God in *The Open Court* for February, 1897. It is in what you deny about him that I cannot agree.

Man is the highest product of evolution; and he is so principally in virtue of his possessing the faculty of consciousness in a very highly developed state. If God is simply Law and not Brahma, he is in that respect something inferior to ourselves. Being the highest types of conscious beings we want something higher still to look up to. Brahma is the ideal prototype of all conscious beings. What are we without him? The children of things inferior to ourselves—the lineal descendants of monkeys, frogs, plants, and rocks. Besides the loneliness of such a situation is there not a ring of something unphilosophical about it? How can there be a progressive evolution towards a high type unless there has been some previous involution from the high type? Can we conceive that conscious organisms could have reached the height of man by evolution unless a real actual perfect type had been in existence from everlasting? Consciousness and law are both attributes of man. He acts by consciousness, and his actions are governed by law. But are the laws of his being the only divine attribute that he has? Is not his consciousness also a spark from the divine? Does not the universal Law from which we derive the laws of our lives also govern a universal consciousness from which our consciousness is derived? Why divorce activity from consciousness in the macrocosm when in the microcosm they are indissolubly united.

I do not see that any of the attributes you ascribe to the superpersonal God are sufficient reason for withholding from him the term personal. I look at it this way. Superpersonal means more than personal,—i. e., personal, only more so. God cannot be more than personal without being personal. I think you almost, if not quite, assent to this yourself, for you say that the superpersonal God is not de-

prived of personality, but embodies all the conditions of personality. In fact if you hold to that statement I think you must give in to me about the consciousness of God ; for I maintain that consciousness is one of the conditions of personality—in fact the chief condition.

I agree that God is not *a* God ; he is God. But when I say that he is personal I do not mean that he is *a* God. Personal does not mean finite, present in one place at one time, transient. Nor does it mean merely definite in character. Rocks and stones are definite in character. The meaning of the word person is to me a being of a definite æsthetic character—a being possessed of definite feeling—definite mind. Such is God. And such, to a less degree is man. We are imperfect persons. Our characters are not so very definite, not crystallised, not solidified. We are changeable. A person of what is called strong personality is less changeable. But God is the perfect person.

And not only do you allow us no real existent Brahma to look up to, but nothing lasting to look forward to—nothing but final absorption into the lower state whence we came. *God* is immortal—the universe is immortal—of course it is ; we all know that. But *we* are all to die. We stand on the summit of evolution with the certain knowledge that in the progress (?) of years every one of our kind on this planet will be as if they never had been. It is sound enough morality, as far as it goes, to say we should all live for each other. But it is the hollowest, shallowest, and most utterly illogical philosophy to seek in that idea an explanation of the problem of life. Why have we been evolved as individuals, why all the pain, what is attained—if we are all to be at last wiped out ? I live for you, and you for me ; but the problem of life is still unsolved. You are preaching a bankrupt philosophy—a philosophy with the bottom knocked out of it. How much longer are you going on imagining that you find satisfaction in it ?

And what about our aspirations for a wider life outside this little globe in space ? There is life like ours in other planets. But that is not much satisfaction to us if we are never to have any direct connexion with it. And the same is true of every inhabitant of every lonely planet. Are none of us ever to know our neighbors. You have no big plan of the universe to offer us, in which each planet fulfils its necessary part and has its own especial *raison d'être*. What are they for, these planets ? There are those of us who seem to have learnt the lessons of the life here on this planet. We can take a broad survey of the whole of it, what it is and what it would seem to lead to. We have gone through the school and reached the highest form. Is there no outer wider life into which we can pass ? Nothing but the certain knowledge of that final death which is—somewhen—to overwhelm our little planet and all in it ?

W. E. AYTON. WILKINSON.

EDITORIAL REMARKS ON MR. WILKINSON'S ARTICLE.

There are a great number of people who are bound to have a God that is like themselves, an individual being possessed of an ego consciousness, with sentiments

like ours and pursuing plans of his own, which would render his nature a case of exact analogy to our own mental make-up. Mr. Wilkinson is one of them, and his plea for God as possessed of an ego consciousness with an individual organisation is very forcible and impressive. But after all, his theory proves untenable and will only reveal the weak points of anthropotheism, i. e., of that view of God which looks upon God as an ego consciousness, having definite feelings, endowed with knowledge, thinking successive thoughts as we do, and finally arriving at a decision to be carried into effect.

Mr. Wilkinson rightly combats the psychology of the late Professor Huxley who held that consciousness, being a mere spectator, is of no consequence; but he is mistaken when he thinks that consciousness can be regarded as a force, as a cause of motion. The tangled skein of errors can be unravelled by pointing out the truth from which his thoughts start and by searching for the fallacy on which they switch off into the assumption of a metaphysical *primum movens*.

We perfectly agree with Mr. Wilkinson that:

"All motion is either directly or indirectly associated with consciousness."

His arguments, however, become unclear when he speaks of force. He says:

"The idea of force as a connecting link between the two ideas of consciousness and motion somewhat assists us in imagining the association of the two."

Force is defined as "something that could cause motion," and then "consciousness is defined as a force." Mr. Wilkinson says:

"A conscious being or soul exerts will-force and thereby causes matter to move."

We would represent the facts as follows: Consciousness is a term denoting the awareness of certain states of our own existence, and motion means a change of place. Force is measured in terms of motion and mass, being conceived as the state of strain or stress that does or can induce motion. The "force" of a body in motion, as the term is popularly used, is called kinetic energy, the "force" of a body at rest and under a stress is called potential energy. Consciousness, being a state of awareness, is neither potential nor kinetic energy, it is no force at all, but it is simple awareness, a phenomenon of quite a different order. It is no mechanical phenomenon but a psychical condition which is commonly called feeling.

Mr. Wilkinson's mistake consists in confusing two abstractions of a different order. Consciousness is a phenomenon belonging to the subjective phases of our experience, while motion is an objective phenomenon. Feelings can be felt only by the feeling of feelings; and this feeling of feelings is the condition of our self-awareness. Feelings find expression in motions, and these motions can be watched, but the feelings themselves, feelings as feelings, are purely subjective; they cannot be seen, or observed by others. We have good reasons to believe that every feeling is the psychical accompaniment of a definite kind of a brain-motion, and we might, at least in theory, be able to know which brain-motion represents pain, which joy, which calm thoughts, and which any other kind of sentiment. But even then if we

inspected the machinery of the brain, it would be impossible to see feelings; we should see motions only, we should be confronted solely with objective phenomena; we should see no feelings, no sentiments, no joys, no pains, for they are purely subjective. Now we assume, according to the monistic doctrine which is commonly accepted by scientists, that matter, motion, consciousness are abstractions from reality, and not things in themselves, that things possess many qualities, they are material, they are active, i. e., they exhibit mechanical phenomena, and sometimes they are sentient, and the subjective side of sentiency is an exact counterpart of the observable objective phenomena.

Two mistakes have been made by philosophers, they have treated abstract notions as separate beings and believe that there are feelings which exist in ghostlike independence, or they identify the various abstractions where they are found in connexion, and call thoughts brain-motions, imagining that thoughts consist either of matter or are purely mechanical phenomena. The actual state of things is this: While an idea is being thought, the brain is in a state of activity. The idea consists in the significance of a sentiment. The sentiment is the subjective aspect of that which objectively considered is a cerebral motion.

The motion of the brain indicates that a commotion of the soul takes place, the significance of which exactly tallies with the form of the nervous excitement.

After these explanations it is apparent that the mechanical order of things remains continuous and is not interrupted by consciousness as a cause of motion; and yet consciousness is not, for that reason, an irrelevant factor in the world.

We must bear in mind that causation (least of all mental) does not depend upon the amount of mechanical motion but upon its form. A lock is opened not by force but by the right key which fits to the keyhole and lifts the lever. In a similar way, ideas find response in the minds of the people addressed. They are communicated by very simple mechanical means, viz., by air-sounds, called words, the significance of which is the same to all who know the language. Let us illustrate this in the instance pictured in a poetic *genre* picture of Lenau, who portrays the carousal of banditti in an inn of the Hungarian Pusta. Gypsies play the fiddle, some bandits dance, others drink, and the captain watches. But now his ear perceives the trot of distant horses, indicating the approach of soldiers. He gives the signal of alarm, and the noise of the revelling banditti is hushed. They take to their horses and disappear in the darkness of the Pusta. The concatenation of cause and effect is throughout as mechanical as are the motions of a machine, but the efficiency of the signal depends upon its significance which is constituted by all the recollections connected with the word. The mental element, i. e., the significance of words, is not a force that creates energy but is the meaning of the air-sounds, and this meaning wherever understood consists in a state of mind which imparts direction to the energy stored up in brain and muscle. It is not a motion or cause of motion, but corresponds to the form of the key and the lock. The speaking of a word and the listening to it takes a very small amount of energy, but

the significance of the words which is the reason why the words find response depends upon a definite form and is not a force, yet it may be accessory in stirring the energy of a whole nation and all its various dynamic resources of steam-engines and the gun powder of its artillery. Thus the mechanical energy of a spark is insignificant, while the explosion of a powder magazine is exorbitant, yet as the spark does not produce the mechanical energy which it sets free, so an idea does not create the energy to which it gives a new direction.

Ideas which loom up in the consciousness of men are not forces, and consciousness is the subjective aspect of a brain commotion, but for that reason ideas, far from being irrelevant, are the most important realities of life, and consciousness is the reflector in which they are actualised

So much to correct Mr. Wilkinson's view as to the shortcomings of the scientific conception of consciousness and his own theory which assumes that consciousness is capable of originating motion. I might proceed further and show how an idea depends on the form of a sensation or sentiment and not on the atoms in which it is thought; that the continuity of man's personality results from a preservation of form and not from an identity of any substance, and finally, that a reproduction of form means a rebirth of soul, for form is not a nonentity but the all-important factor of the world. Form in itself is the essential condition of things spiritual, and that continuity of form is a reality even in the flux of matter is proved by the continuity of consciousness which is preserved in spite of the constant metabolism of the body. Memory is a preservation of form, and we know ourselves to remain the same although all material particles of our body have changed, and we are obliged to renew constantly the supply of the sources of our energy needed for the sustenance of life. But we cannot discuss these subjects without writing a long essay on psychology. The main question at present is whether or not God is an individual being, a concrete ego-soul of the world, an *anima mundi*, thinking successive thoughts as we do and arriving at decisions like ours in every respect, except that he is greater, wiser, and infinitely more powerful than a man.

The existence of such a world-soul is not very probable, although I am not prepared to say that it is impossible, but granted that it existed, I should not confer on it the name God. The mere thought of it is sufficient for refutation. This world-soul would be an individual creature subject to evolution, conditioned by the eternal laws of existence and bound to respect the unalterable principles of right and wrong. This world-soul, taking now for argument's sake its existence for granted, has apparently enough to do in keeping the whole body of the universe in a state of health and cannot trouble itself about the personal welfare of the innumerable smaller beings that people the various limbs of his organism as bacilli inhabit a human being. The best argument that speaks in favor of this conception of an individual world-soul-god is the discovery of organisms smaller than we ourselves in our own system:

"For little fleas have lesser fleas
Upon their back to bite 'em,
And lesser fleas still lesser fleas
And so *ad infinitum*."

But what comfort can the flea derive from the idea that the world which he inhabits is as much an organism as he himself? Both, after all, are creatures, and neither is a God. An All-being would be an enormously big creature, still it would be a creature subject to error, failure, disappointment, sin, and suffering as much as any minor creature that lives in its bowels.

I do not wish to repeat myself in this reply to Mr. Wilkinson's criticism, especially as the last number of *The Monist* contains an article of mine on the same subject. I would only request the reader to bear in mind, first, that law is a convenient but in certain respects a misleading term, for those eternal uniformities which constitute the cosmic order; secondly, that these uniformities appear in their scientific formulation very dry and abstract, but in reality they are effective realities whose life is not like that of organisms subject to origin and decay, but everlasting and immutable. If they are said to be omnipresent, it means that they are here and everywhere, omnipresence does not mean that they are nowhere. Thirdly, we should mind that those eternal norms of right, of truthfulness, of purity of heart, are not less real than are the laws of gravitation. Fourthly, this omnipresence of God should not be interpreted in the sense of the old-fashioned pantheism which identifies God and the world. Although God and the world are separate, they are not one and the same thing; they are different. The Allhood of existence, its omnipresent formative feature is not tantamount with an All-being, i. e., the sum total of all things. Fifthly, God is not a vague generality but is possessed of a definite and well determined character. He exhibits a clearly pronounced suchness which is the ultimate standard of morality, of goodness, of right. In this sense we see a justification of the traditional dogma of the personality of God. God consists of all those features which constitute the personality of man, endowing him with rationality and moral ideals. But while we may speak of the system of divine eternalities as a person, we must insist that the personality of God does not mean individuality, for which reason we prefer to characterise God as superpersonal. His personality is of a higher kind than man's personality; it is an eternal and omnipresent personality, while man's personality is the personality of an individual being limited in time and space. Finally, consider that man is by dint of his reason a more or less perfect incarnation of the eternal in nature; he has originated in the image of God and is God as reflected in consciousness. Therefore while we may be the lineal descendants of monkeys, frogs, and amoebas, we are still the children of God. The eternal that permeates all transient phenomena has taken abode in man's soul; and this eternal which is in us constitutes our very soul. Our bodies have originated through the modification of the bodies of lower animals; but this modification has been effected through the omnipresent potencies of the eternal in

nature, of the creative and formative Deity, of the Logos that was in the Beginning.

Shall we, being more or less an incarnation of God and an actualisation of the eternal, be afraid of death? No, not when we have understood the full significance of this truth. Death dissolves our bodies; death terminates the activity of our earthly career; it does away with sufferings and all the tribulations of life. But the formal part of our being, the mould in which we have been cast, remains undestroyed.

Now, having stated my view of the situation and having pointed out some of the most flagrant mistakes of Mr. Wilkinson's conception of God, I cannot help adding a postscript in which I would urge Mr. Wilkinson to stick to his God conception so long as he is incapable of perceiving the deeper truth of a more philosophical interpretation of facts. The dogmas of religious tradition are not untrue, but expressed in parables. He who discards the parable as untrue is apt to think that it is meaningless. The babe that cannot as yet digest meat should not become dissatisfied with the milk, else it will starve. And, on the other hand, there is nothing wrong with the milk when the adult is advised to live on a more substantial diet.

P. C.

MR. LUTOSLAWSKI'S "PLATO."

Mr. Lutoslawski's reply raises a different issue from that which I intended to make in the review to which he objects. I am not concerned to deny Mr. Lutoslawski's cleverness, industry, and erudition, and I can cheerfully subscribe to many of the flattering things said by the critics whom he quotes. The true interpretation of the Platonic philosophy and the value of any given attempt at such an interpretation are perhaps matters of subjective opinion. The translation, fair paraphrase, or meaning of particular Platonic *loci* is or should be generally a matter of fact. The "fact," then, of which I spoke is that Mr. Lutoslawski positively misapprehends many Platonic passages and strains or perverts the fair meaning of very many more. In support of this contention I cited by chapter and verse a considerable number of passages. To meet my criticism Mr. Lutoslawski must show that these passages are correctly translated, or, if he prefers the expression, "interpreted" or "applied." But his answer refers to only one passage, *Timaeus* 28 A. He says that he did not intend for a translation the interpretation which he twice gives of this passage. I will not cavil on that point. The interpretation is wrong, and the passage does not tend to establish the thesis in support of which it is cited except on the wrong interpretation. Mr. Lutoslawski remembers his *Gorgias* too well to expect a Platonist to be overcome by a cloud of witnesses, especially if their testimony does not bear on the point in issue, which, I repeat, is the correctness of Mr. Lutoslawski's interpretations of specific passages. I positively affirm that his book contains many misstatements of fact and a large number of interpretations which are erroneous whether they be translations or not. I have cited several of them. It will be easy to cite more when these have been considered.

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BOOK REVIEWS.

THE PLAY OF ANIMALS. By *Karl Groos*, Professor of Philosophy in the University of Basel. Translated with the Author's co-operation by Elizabeth L. Baldwin. With a Preface and an Appendix by J. Mark Baldwin, Professor in Princeton University. New York : D. Appleton and Company. Pages, xxvi+341.

The importance of play in relation to the development of the infant mind is so great, and yet so little has been written on the subject and presented in English dress, that this excellent translation of Professor Groos's work will be received with a hearty welcome by English and American psychologists. Devoted as it is almost entirely to the play of animals, the work might be thought to belong exclusively to the field of animal psychology, but now that the principles of evolution have come to be recognised as applicable to the development of the mental nature, as well as to that of the physical organism, the exclusive view must be regarded as erroneous. Plants, animals, and man form links in a continuous chain of being and therefore the nature of man cannot be understood without a study of the organic existences below him in the scale.

All but about 120 pages of Professor Groos's work is devoted to a descriptive account of animal play and the details he gives furnish ample material for the deduction of the principles which govern it, although they do not admit of criticism in an ordinary review. Nevertheless, it is interesting to take note of the great variety displayed in the amusements which animals indulge in, and their close resemblance to those of human childhood. First we have a group of phenomena to which the term experimentation is applied. This term is used to denote such movements of young animals as enable them first to win the mastery over their own organs and then over external objects. They include stretching and straining the limbs; tasting, seizing, and clawing; gnawing and scratching; exercising the voice; rending, pulling, tearing, tugging, kicking, lifting and dropping objects, etc., all of which are practised by the human infant no less than by the young animal. On such movements depend, says the author, the proper control of the body, muscular co-ordination, etc., while psychically they promote the development of the perceptive faculties, such as space-perception, attention, will-power, memory, etc. They

thus form the common foundation on which the specialised plays are built up. Then comes a series of plays, designated movement plays, which involve change of place for its own sake, such as practice in locomotion, walking, running, leaping, climbing, flying, swimming. Hunting and fighting differ from these movements in having a specific aim. The latter includes teasing, in which many animals are great adepts, tussling among young animals and playful struggles among grown animals. A series of curious plays are those connected with the constructive arts, including the methods of building ornamentation employed by some animals, chiefly birds. The author traces these to a sensuous delight in what is bright and gay, which is an important antecedent to æsthetic pleasure, "because it assures a lively perception of the object," but not to be mistaken for æsthetic pleasure itself. In relation to nursing plays, most of the animals concerned in which had lost their own young and were trying to find an outlet for the fostering instincts, Professor Groos remarks that when half-grown birds assist in caring for the younger ones, "we have the veritable play of young creatures, in which, however, imitation is perhaps as much involved as the nurturing instinct."

We are here introduced to a very important series of animal actions, those which exhibit the influence of the imitative impulse. The author devotes a chapter to the consideration of the relation between play and instinct which contains a summary of the principles that give a psychology of play and from which the following quotation may be made, as well expressing in outline his special theory. After stating that the imitative impulse is an instinct directly useful in the serious work of life among most, if not among all, of the higher gregarious animals, and that all youthful play is founded on instinct, illustrations of which are to be found in the modes of play already referred to, he adds: "Besides these plays, which are founded on strongly developed instincts, and can therefore be practised without a model, there are many others worthy of consideration: those in which at least two instincts are involved—one an impulse only rudimentarily present, though easily aroused, and the other the accompanying imitative instinct. To this class belong the instances . . . of young birds learning to sing, probably, too, the barking of puppies, and the imitative play of little girls whose motherly tending of their dolls could hardly reach the perfection in which we see it without imitation. . . . Finally, it must be admitted that there are cases where the imitative impulse exceeds the limits of instinct and apparently works alone, as when apes imitate the actions of men, where parrots learn to speak intelligently, and when children play horse cars, railroad, hunter, teacher, and the like. But even here a latent desire to experiment contributes, and it is evident how necessary such play is to the development of mind and body."

In dealing with imitative play, Professor Groos considers the theory, propounded by James Mill in his *Analysis of the Phenomena of the Human Mind*, according to which imitation is of individual (not hereditary) origin, concluding that "the exercise of imitative impulse does not use tracts learned by association,

but rather inborn ones; in other words, that it is not acquired but inherited; it is an instinct." In this view he agrees with Herbert Spencer, but demurs to his assumption of the inheritance of acquired characters, preferring the principle of survival of the fittest, or selection, as the proper basis for a definition. To prove that imitation is useful, he takes the ground that it is an instinct "which works directly toward development of intelligence, since its tendency is to render many other instincts to a certain degree superfluous, and so encourage independence in the individual." The fact that imitation is strongest in the more intelligent animals supports that view, man himself being the imitative animal *par excellence*. The question arises, however, as to when imitation is in earnest and when merely playful, but the discrimination is easy to make by reference to the definition of play as "instinctive activity exerted for purposes of practice or exercise, and without serious intent." The author gives many interesting instances of imitative play, which is the most striking among birds that have acquired the art of speaking, but is to be seen also in the vocal practice of all animals when carried on in concert. He is of opinion that courtship is the unconscious basis of such sounds and of the curious movements which often accompany them, stating that "when the contagious influence of imitation becomes a factor in mass games, they are easily converted into veritable orgies." Here Professor Groos sees the operation of the principles that govern ethnology and the history of human civilisation. The plays of birds correspond with our general dance that is so closely connected with sexual excitement, the principal difference being that "the notions of the human dancer less clearly betray the courting instinct." It is there, nevertheless, and thus "we may learn much from the courtship of birds that is applicable to man as well."

In *curiosity* Professor Groos finds the only purely intellectual form of playfulness he has met with in the animal world. Curiosity is called "sportive apperception," and the primary reason for it is said to be the necessity for mental exercise added to the increase of knowledge. With it is often associated the æsthetic perception manifested in the absorbed attention with which some of the higher animals observe the movements of others, even of human beings. The attention is not conscious, however, in the ordinary sense, and hence the examples recorded of it are only elementary expressions of æsthetic pleasure, but they "serve to show that the sphere of æsthetics is infinitively wider than that of the beautiful."

The space at our command will allow of a merely cursory glance at the love plays which, owing to their being expressions of the sexual instinct, are among the most important phenomena of animal life, and to which the author devotes a special chapter. He first considers the objections made by Wallace and others to Darwin's theory of sexual selection, and concludes that as "the excited condition necessary for pairing and also a certain difficulty in its execution, are both useful for the preservation of the species," sexual selection is only a special case of natural selection. He divides love plays into five separate classes, those among young animals occupying the earliest place and coquetry in the female the latest, the in-

intermediate classes consisting of different forms of courtship. Professor Groos concludes his highly instructive work with a chapter on the psychological aspects of play, the principal content of which is the investigation of "make-believe" or "conscious self-illusion." He shows, moreover, that the psychic accompaniment of experimentation, the most elementary of all plays—the "joy in being a cause"—is the central idea of the whole conception of play. It permeates every kind of play, and has a significance not sufficiently appreciated even in artistic production and aesthetic enjoyment.

C. S. WAKE.

THE PREPARATION FOR CHRISTIANITY IN THE ANCIENT WORLD. A Study in the History of Moral Development. By *R. M. Wenley*, Professor of Philosophy in the University of Michigan. New York, Chicago, Toronto. Fleming H. Revell Company. Publishers of Evangelical Literature. 1898. Pages, 194. Price, 75 cents.

It appears from the Preface to this little book that it was prepared for the Church of Scotland "Guild Series," the design of which is "to deepen the intelligent interest of the laity in all questions connected with the origin, nature, history, and extension of the Christian religion." This the present volume cannot fail to do, as it is an able presentation of a difficult and important subject, by a writer who is well qualified to deal with it. Professor Wenley's earlier studies are well known and in his *Socrates and Christ* he has already gone over a portion of the ground covered by this work, the key to the argument of which is to be found in the introductory statement that Christianity "was born into a universal empire, the state of which at the moment is matter of history; all the circumstances of the time imperatively demanded the new revelation, and conspired to the successful propagation of the 'good news'." A preparation had been going on for a considerable period the commencement of which the author places in the Periclean age of Greece. It was then man first acquired some consciousness of his own worth, before which the questions that necessitated the Christian revelation were practically non-existent. For two centuries prior to Socrates the Greek mind regarded itself as one with nature. Hence, says Professor Wenley, religion was based on personification, and gradually came to be associated more and more with human qualities, the Hellenic gods assuming "clearly marked individual characteristics." During the same period, Greek thinkers exhibited a similar sense of unity with the outer world, combined with unconsciousness in regard to ethical questions. The so-called problem of substance engaged the attention of philosophers, giving rise to the formation of two opposite schools who agreed only in the doctrine of deception by the senses. This doctrine was adopted by the Sophists, who declared that as the senses do deceive, one man's opinion is quite as good as that of another. At this point Socrates appeared, and he is rightly termed by the author a missionary, for he had a gospel, the preaching of which led him to a martyr's death. The life work of Socrates, says Professor Wenley, was "to turn investigation from matter

to man, to deflect interest from the foreign order of outer things to the inner realm of regnant personality"—to teach its own infinite value to the human soul. The gospel of Socrates was incomplete, as it was limited to the Greek citizen whose duty it declared to be to do his best for the interests of his community.

That which was begun by Socrates was continued by Plato and Aristotle, in whom the Hellenic spirit "gathers itself together, so to speak, and applies its assembled resources to the fundamental problems of the nature of the universe and of man's being." Their conception of the moral life was perfect, as it required the life of morality for the sake of morality, but their notion of the good man was not as he was essentially Greek whose duty was restricted to the State. Professor Wenley, after treating of this "Greek self-criticism," devotes a chapter to the consideration of the philosophic ideas of Epicurus and of the Stoics, under the title of "Salvation by Wisdom." This he declares to be a failure because it rendered humanity, "miserable enough already, too poverty stricken." As the mission of Socrates was to reveal man to himself, so that of the Jews was to reveal God to man. In religion, says Professor Wenley, at least four life-streams commingled. "From Greece it largely derives the conception of God's manifestation in the universe; from Rome, the idea of God's identical relation to all men everywhere; from Teutonic character, the importance of God's connexion with every man apart; from the Jews, God himself." Not only was the mission of the Jew religious, but so also was their genius, and to their conception of God was added a vivid perception of the conditions essential to pure religion. To be perfectly righteous as God was to them man's chief end. The religious enthusiasm they exhibited is ascribed by the author to the influence of the Law which had been elaborated during the four centuries and a half that elapsed between the last of the prophets and the advent of the Saviour, which occurred at a time of general unrest and of expectation of a deliverer from Roman domination. In the next two chapters Professor Wenley treats of the Preparation of the World and The Preparation of the Spirit for the Appearance of the Saviour, as exhibited by the external unity and the moral anarchy which marked the epoch. This was gradually removed, however, by "the accomplishment in Christ of everything that a man ought to become in order to attain the dignity of true manhood," a statement which well sums up the author's philosophy.

C. S. W.

DIE PHILOSOPHIE DER GESCHICHTE ALS SOCIOLOGIE. Von Dr. Paul Barth, Privatdocenten an der Universität zu Leipzig. Erster Teil: Einleitung und kritische Uebersicht. Leipsic: O. R. Reisland. 1897. Pages, 396.

The author of this book, a private docent in the University at Leipsic, has not yet been prominently before the public, but he exhibits a fair acquaintance with the domain of economics and its history and (leaving aside some obvious misconceptions) sometimes shows very good judgment in practical questions.

Barth claims that the object of history is neither the individual, nor mankind

as a type, but society; and thus a philosophy of history will naturally become sociology. He passes in review the various sociological theories, beginning (after a brief mention of Plato, Aristotle, and Montesquieu) with St. Simon and his followers. He enters deeply into an analysis of Comte, adding thereto Littré, De Roberty, De Greef, Lacombe, and Wagner, all of whom are decidedly influenced by Comte's philosophy, and therefore Barth comprises them under the heading of "Classifying Sociologists," for, says our author, "classification receives here a higher importance than it usually retains in other sciences" (p. 59). "They have throughout proved failures and their results are unsatisfactory" (pp. 88-89).

Another class of sociologists are those who are dominated by a consideration of biological growth. They are Spencer, Lillienfeld, Schäffle, Fouillée, and Worms. Barth criticises them for incoherence, for a neglect of important analogies, for the tacit assumption that the elements of society have remained the same and especially for a lack of clearness as to the origin and course of development of the so-called higher features of society.

This lack of clearness leads to a dualistic construction of the social problem which is attempted by L. F. Ward,¹ J. S. Mackenzie, M. Hauriou, F. H. Giddings, and B. Kidd. Their views are summarily condemned as unhistorical.

Among the one-sided theories which form the next class of sociologists, Barth treats the individualistic, the anthropogeographical, the ethnological conceptions, then the views based upon the history of civilisation, of politics, of ideology (i. e., a consideration of leading ideas), of economics, of production (Marx), of the struggle of the classes (Loria).

Barth's criticism of the one-sided sociologists is more thorough than that of the classifying biological and dualistic systems, and he devotes several pages to a refutation of Marxism whose notions of social relations, of adaptation, of production, of consumption, of social justice, of egotism, as a cause of the present conditions are enumerated as faulty.

Having proved the insufficiency of all social theories it only remains to be shown that on that account sociology as a philosophy of history is not impossible. This is done by a refutation of Schopenhauer and Dilthey. And now we stand on the ruins of all previous systems of sociology, and a feeling of sadness overcomes the reader that all efforts have thus far proved in vain. But we are not yet through. Dr. Barth still lives, and he employs the last sixteen pages to comfort us with a new sociology that is left unharmed. It is a sketch of his own views which shows how the horde was the nucleus of human society from the formation of which we must start. The horde changes at the period of animism into a tribe; the tribe is organised into gentes with a polytheistic religion. Then law originates and the gentes change into estates. Nature worship is transformed into a religion of law. Education is introduced. After the breakdown of the Greek and Roman civilisation of

¹Mr. L. F. Ward would, of course, strongly object to being classed among dualists.

estates we have the estates of the Middle Ages which are followed by the régime of absolutism, and in later days by liberalism. An outlook upon the present conditions ends in a complaint of the symptoms of decadence and a lack of idealism among the laboring classes. The author expresses the need of a new birth in which mankind will reconsider moral values and bring forth a new social order and a new art.

P. C.

IMMANUEL KANT. SEIN LEBEN UND SEINE LEHRE. Von *Friedrich Paulsen*. Mit Bildnis und einem Briefe Kants aus dem Jahre 1792. Stuttgart: Fr. Frommann. 1898. Pages, xii, 396. Price, 4.75 Mk.

Kant's philosophy has rather grown than decreased in importance, both in the fatherland and abroad. It is one of those philosophies of the past which is still living, and Friedrich Paulsen's work on Immanuel Kant, his life and doctrine, will be the more welcome as he is the man to cope with the many difficulties that surround this great task. He is not exactly a disciple and follower of the great Königsberger, yet he remains conscious of the gigantic power of the grand old man. Paulsen is critical, and would recommend neither Kant's schematism nor the doctrinary style of his apriorism,¹ but is in sympathy with his ethico-metaphysical Idealism, i. e., with the view Kant takes of the relation of the cognising mind to reality, and the determination of the significance of knowledge, as well as volition in practical life. These latter things are after all of paramount importance, and they have become a lasting ingredient of German philosophy.

Having defined Kant's significance both in the history of the world and in his own age, Paulsen sketches his life and character as a man and a thinker (pp. 21-104), and then devotes the main part of his book to an appreciation of his theoretical (pp. 105-289) and practical philosophy (pp. 290-374). A brief conclusion surveys the influence of Kantian philosophy and its relation to the present. An index is missing according to a well established German custom, but this in the present case is quite excusable, as a student of Kant who is familiar with Kant's works will easily find passages he may be in search of with the help of the table of contents. The facsimile of a letter written by Kant to his brother, and a photographic reproduction of the group Kant and Lessing on the pedestal of Rauch's famous monument of Frederick the Great in Berlin are adornments which will be of good service to the reader interested in Kant and his philosophy.

Paulsen's treatment of Kant's philosophy is concise and clear,—at least for German students, and deserves a place in every philosophical library of the world. It will be a great help to English and American philosophers who are beset by the misrepresentations which Kant's system has experienced at the hands of both his friends and enemies, foremost among the former, Hamilton, among the latter, Her-

¹ Paulsen loosely calls it *aprioristisch-dogmatische Denkweise*, an expression which can easily be misunderstood, since "dogmatism" is a term in Kant's philosophy which would not apply here.

bert Spencer. Should any one undertake an English translation of Paulsen's book, we would suggest that he correct in a translator's preface the most flagrant misconceptions of Kantism that are rampant in English-speaking countries. P. C.

LEHRBUCH DER PHYSIOLOGISCHEN UND PATHOLOGISCHEN CHEMIE. In neunundzwanzig Vorlesungen für Aerzte und Studierende. Von G. von Bunge, Professor in Basel. Vierte vermehrte und verbesserte Auflage. Leipsic: F. C. W. Vogel. 1898. Pages, 510. Price, 12 M.

The fourth edition of Bunge's *Lehrbuch* shows the position of its author unaltered, or rather re-enforced. It contains all the various lectures on vitalism; the cycle of the elements; the preservation of energy; man's food, especially protein, starch, carbonates, fats, and phosphates; stimulants (alcohol, coffee, tea, etc.); sputum and pepsin; the intestinal secretions and the gall; blood; lymph; carbonic acid and the gases of the blood in the various modes of respiration including the gases of the intestines; uric acid; the secretions of the liver; the sources of muscular energy; diabetes mellitus; the nature of fever. There have been added four new subjects, all of them of great importance, viz.: (1) the milk and the nutrition of the baby; (2) the spleen; (3) the rôle that iron plays in the economy of the body; and (4) the function of those glands which possess no vent for their discharge—the suprarenal capsule, the scutiform gland, and the hypophysis cerebri.

Bunge is one of the leading authorities in his line of research, which is physiological and pathological chemistry, and his investigations as well as the lucid way in which he presents the results of his labors are truly classical; but he has provoked the opposition of his colleagues by his determined adhesion to the theory of vitalism and his repudiation of mechanicalism, i. e., a philosophy which would attempt to explain vitality and the phenomena of organised life by the laws of mechanics. Bunge insists on the fact that organised life cannot be regarded as a domain of physics or chemistry, but is something quite different, and that therefore we are entitled to contrast vitality with the lower forms of natural forces. The present edition contains a brief reply to Bunge's critics, among whom Émile du Bois-Reymond is perhaps the most prominent scientist. Bunge says:

"All criticisms which R. Heidenhain, E. du Bois-Reymond, Max Verworn, A. Mosso and others have directed against my position, can be summed up in the sentence that constitutes the basis of my argument from which I proceed. It is this: 'Any one who expects to discover with the same senses in animate nature something different from what he discovers in inanimate nature is guilty of a lack of discretion (*Gedankenlosigkeit*).' But my critics have not even touched the salient point of the problem—the impossibility of a mechanical explanation of psychical qualities; these qualities are the immediate object of experience, they are the most real of all reality.

"Any one who takes offence at the word vitalism is at liberty to replace it by other terms—idealism, scepticism, empiricism; but that would alter little in my

"exposition. I have only shown that the metaphysical speculations and dogmas of
 "the mechanistic philosophy are definitely refuted by empirical psychology and
 "the most immediate observation and experience.

"The hypotheses upon which the mechanistic explanation of nature is based,
 "viz., the atomistic theory, the theory of undulation, the mechanistic theory of
 "heat, etc., are metaphysical speculations which attempt to comprehend the na-
 "ture of things as they are, not as they appear; and these hypotheses were gained
 "by transferring some notions based upon introspection into the realm of the ex-
 "ternal world—viz., the notions space, time, quantity, number, energy. To trans-
 "fer more notions from the inner life to the outer has not proved recommendable.
 "Certain philosophers have ventured to do so, but the physicist resigns himself to
 "measure the quantities of objects without forming an opinion of their qualities.
 "But now the mechanistic philosophers turn backwards and transfer *vice versa*
 "the notions projected into the outside world into the inner state of the phenomena
 "of life and trust that they explain with these few, poor, unmeaning notions the
 "entire fulness and the whole wealth of the inner world.

"There is no reason to believe that the world of our inner senses, the life of
 "the soul, should be limited to sundry divisions of the cerebrum. Only ask your-
 "self the question, Whence does the life of the soul come? The answer is, It is
 "inherited through one simple cell. Through a continued division of this simple
 "cell, all other cells, all the tissues, and among others the nervous tissues, the
 "brain, the cerebrum, of our body originate. And should not what is ontogenet-
 "ically true, hold good also phylogenetically? If we descend in the series of ani-
 "mal life down to the unicellular beings, where does soul-life cease? Does it dis-
 "continue with the disappearance of the brain or where we can no longer trace a
 "distinctly differentiated nervous system? There is nothing to prove such an as-
 "sumption. Should we not think that perhaps every cell and every atom is an
 "ensouled being; and that all life is soul-life?"

There is much in Professor Bunge's position that deserves a careful considera-
 tion; he is right when he claims that the psychical phenomena cannot be explained
 by physical or mechanical laws; and the simple reason is that the laws of motion
 can explain motions only and not phenomena that are not motions. Bunge raises
 a problem of importance and suggests its solution, but fails to work it out with pre-
 cision and accuracy. He declares that "the physicist resigns himself to measure
 the quantities of objects without forming an opinion of their qualities." This is
 not true. The investigation of qualities does not lie outside the domain of natural
 science, and we can easily explain qualitative differences by a difference of form.¹

We conclude our review with the remark that Bunge takes quite an exceptional
 position on the liquor question. Although a German Swiss, he is an outspoken
 enemy of alcoholic drinks in any form, and advocates the use of coffee and tea in

¹For further comments on Bunge's position we refer the reader to Carus's *Fundamental Problems*, pp. 180-183.

their place. He claims that alcohol never acts as a stimulant, saying: "Ueberhaupt hat der Alkohol nur lähmende Eigenschaften." We need not repeat the arguments which he offers against even a temperate use of alcoholic drinks, for they are the same that are found in the usual temperance literature. The reviewer was quite impressed to find so good an authority as Professor Bunge among the teetotalers, and being a moderate drinker himself, felt much inclined to become an absolute abstainer, when he was saved by the statistics of Goethe's indulgence in hock and claret, the quantities of which are appalling and would be sufficient to fill a well-sized bathing tank. It is a pity that, having lost the paper in which the item was mentioned, we cannot give the exact figures; but consider that Goethe drank wine daily with his meals, and on festive occasions, in the lodge or at other social gatherings, he frequently drank a whole bottle, or even more, and yet none of the evil results fell upon him. Neither his stomach nor his kidneys nor his brain were noticeably deranged. He lived to a good old age, continuing his habit of drinking wine to the very end of his life, and wrote in his seventieth year the second part of *Faust*, a work which few people who train themselves in abstinence from alcoholic drinks could improve upon.

The pernicious effect of all kinds of liquors of which Professor Bunge speaks may be true enough of immoderate drinkers, but not generally, while on the other hand tea and coffee are probably not quite so harmless as he represents them. The very quality for which advocates of temperance recommend them, renders their poison insidious. Too much wine intoxicates, and there is a limit to indulgence in it, but too much coffee renders one sleepless and brings on a number of neurotic diseases the worst of which are quite as bad as delirium tremens.

We have no intention of discussing the problem of prohibition, and must therefore stop, but while we recommend Professor Bunge to our prohibition friends as one of their mightiest allies, we wish to say that the weakness of his *raisonnement* on alcohol does not detract from the general excellence of his work, which is full of valuable information and should be translated into English by a competent pen.

P. C.

SYSTEM DER WERTTHEORIE. I. Band. Allgemeine Werttheorie, Psychologie des Begehrens. II. Band. Grundzüge einer Ethik. By *Dr. Christian von Ehrenfels*, Professor der Philosophie an der deutschen Universität in Prag. Leipzig: O. R. Reisland. 1898. Pp., 277+270.

UEBER DAS SOLLEN UND DAS GUTE. Eine begriffsanalytische Untersuchung. By *Fred Bon.* Leipsic: Wilhelm Engelmann. 1898. Pp., 188.

DER BEGRIFF DES ABSOLUT WERTVOLLEN ALS GRUNDBEGRIFF DER MORALPHILOSOPHIE. By *Dr. Felix Krueger.* Leipsic: B. G. Teubner. 1898. Pp., 93. Price, 2.80 Mk.

Valuation (or *Werthung*) is a term which was originally coined by economical writers and has of late come to play a prominent part in German ethics. There is

no modern treatise on morality in whose pages we should not find an exposition of the nature of "values" applied to moral sentiments and actions. Kant's formalism is commonly deemed antiquated, and the hedonistic ideal of utilitarianism has been introduced in Germany by the late Professor Gyzicki and the Danish ethicist Höffding. It was mainly Gyzicki who thought that morality had no sense, except we could measure the worth of actions in sentiments. Since then the idea of gauging ethics by some kind of value has remained in the foreground, and we meet now with serious attempts to define the meaning of valuation.

The first of the books under review undertakes to lay down the foundation of ethics in a system of valuation, defining worth in terms of desire. Ehrenfels says: "We do not desire things, because we recognise in them that mystical and intangible essence called worth (which is merely a metaphysical illusion), but we deem them valuable because we desire them" (pp. 3 and 52). This definition leads to a discussion of the relation between feeling and desire, both of which belong to one and the same class of fundamental phenomena, but we should learn that feeling depends upon desire, not *vice versa* (p. 10). In opposition to Kant, Ehrenfels teaches that reason can exercise only an indirect influence upon volition, and that any theory of the autonomous supremacy of reason is an unnatural idea (pp. 9-10). Any desire or volition is actualised only when the state of happiness that depends on it lies higher in the scale of feelings than that other state of happiness which would obtain if the act were not done (pp. 35-36). On the one hand, our author rejects the proposition that values are determined by egotistic desires alone; on the other hand, he declines to recognise the ideal of something that possesses absolute value as practical. Value, being a relation between subject and object, is necessarily relative, and the amount of a value is proportionate to the intensity of the desire as well as the difference between the two states of feeling in case the object be or be not attained (p. 65).

After a review of the import of valuation in the struggle for life and the evolution of types, and a psychological analysis of desire, Professor Ehrenfels lays in the second volume of his work the foundation of ethics as a psychology of moral valuation which must be regarded as a special branch of a theory of valuation in general. In this way he proposes to avoid, on the one hand, the antiquated doctrine of an absolute normative ethics; and on the other hand, a relativistic historical ethics. This second part contains an analysis of ethical valuations, a discussion of the ethical development, of moral maxims, custom, and justice, the individual ethics of conscience, etc., and in conclusion determines the nature of ethics as a theoreticopractical discipline whose task in practical life will be to investigate all the regulative social desires, evaluate them with reference to the desirability of their aim, or, if necessary, to replace the antiquated aims by new and more adequate ones (258).

Fred Bon also treats the problem of ethical valuation (p. 166), and finds the difficulty in the haziness that surrounds the conception of the ought, which he treats in a triple gradation, asking first, "What shall I do?" Secondly (consider-

ing in general the aim or purpose of the ought), "What shall I do in order to attain this or that end?" And, thirdly, "What shall I do to be happy?" The third question reappears in the other formulation, "What shall I be?" The author does not intend in the present pamphlet to give an exposition of moral goodness, but only to prepare the field in a philosophical *Vorarbeit*, and thus to indicate the foundation for a scientific ethics.

While most of our modern ethicists would regard the idea of absolute value as something self-contradictory, Felix Krueger proposes to utilise this stone of offence rejected by the builders and to make it the head of the corner. His ethics is based upon the solution of the question, "What possesses for man an absolute value?" (P. 3). While he does not advocate a reckless return to Kant, he believes that we have not yet drawn to-day all the consequences of his ethical doctrine; he proposes to transcend Kant by understanding him. In contrast to the view that identifies value with desirability, Krueger discovers value only in the constancy of desirability. Valuable is not what I desire under given conditions, but that which also remains or must remain an object of volition. Krueger believes that the idea of valuation alone can overcome the ethical eudæmonism of our age (p. 45). He says that the main thing is to organise (i. e., join harmoniously) the possibly greatest variety of volitions through psychical functions (p. 66), and thus we reach "the ethical ideal" which consists in this, that "one shall develop as much as possible into an evaluating man—*ein werthender Mensch*." (P. 79.) P. C.

BEITRÄGE ZUR PHYSIOLOGIE DES CENTRALNERNENSYSTEMS. Von Max Verworn.

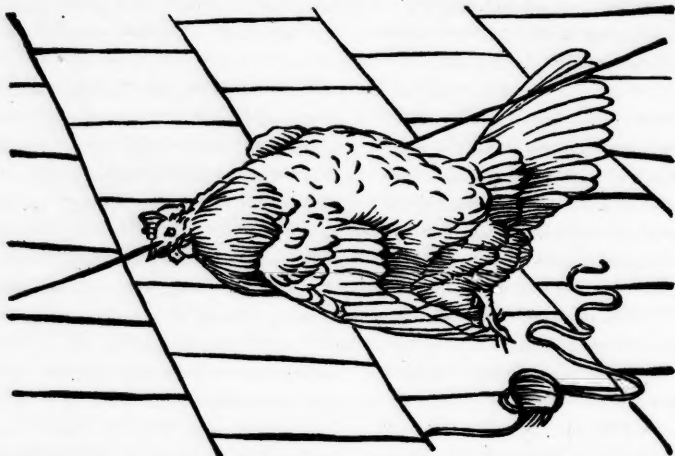
Dr. med., a. o. Professor der Physiologie an der Universität Jena. Erster Theil. Die sogenannte Hypnose der Thiere. Mit 18 Abbildungen im Text. Jena: Verlag von Gustav Fischer. 1898. Price, 2.50 Mk.

Max Verworn possesses the ability of presenting a topic in an interesting way and the present pamphlet will be welcome to many who desire a popular explanation of the various symptoms of those phenomena which go by the name of animal hypnosis. The reader will be pleased to find a literal quotation of the famous passage¹ of Kirchner's *Experimentum Mirabile de Imaginatione Gallinae*, together with the original woodcut of the hypnotised hen (See p. 318). That this famous Jesuit cannot lay any claim to the discovery of this trick has been proved by Preyer who called attention to a description of the same experiment which Schwenter² made ten years before the appearance of Kirchner's *Ars Magna*. The experiment was regarded as a phenomenon of magnetism and in modern days of hypnotism, and similar experiments have been made by Czermak and others with other animals. Verworn passes in review the experiments made on birds, mammals, reptiles, amphibians, and the crayfish. The results on fishes, as obtained by Danilewski,

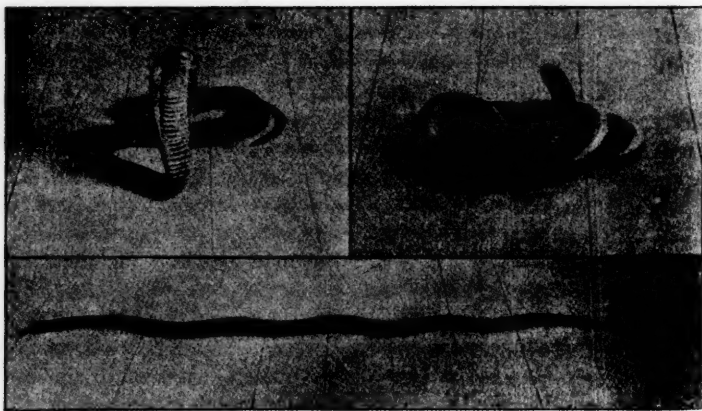
¹ Athanasius Kirchner, *Ars Magna Lucis et Umbrae*, Rome, 1646.

² Daniel Schwenter, *Deliciae Physico-Mathematicae oder mathematische und philosophische Erquickungstunden*, etc. Nürnberg, 1636.

must be regarded as doubtful. Verworn himself made his own experiments mainly on guinea pigs, chickens, and frogs, and comes to the conclusion that the rigidity exhibits always that position which the animal tried to correct, and it is not due



to absence of strong motor impulses. There is no reason to seek for other causes of this abnormal condition than muscular fatigue (pp. 50 and 55), which result is corroborated by the fact that the experiments are successful also with hens



whose cerebrum has been carefully removed without injuring the cerebellum (p 53). Verworn's theory is that the rigidity is produced—and the same would be true of the passive condition of the body in natural sleep—not directly through fatigue, i. e., not through the over-exertion of dissimilation in the tissues, but through a

more vigorous assimilation which by its peculiar activity produces the phenomenon of inhibition.

We may add that according to Verworn (and perhaps he is right) the rigidity of the Egyptian snake *Naja Haje*, which is produced by a slight pressure of the neck below the swelling of the head when in a striking attitude, is of a different character. The fact possesses a peculiar interest on account of the Biblical report of the tricks of Egyptian priests in which Moses is said to have surpassed them. Verworn says that in the hen, the frog, the guinea pig, etc., the cause of the rigidity is the exertion made for the sake of freeing themselves from the awkward position, but the *Naja Haje* becomes motionless through the pressure upon a definite (although not well circumscribed) region of the body (p. 41). He observed, however, that the snake when rendered motionless, merely resembles a stick; it is not stiff but flaccid and pliant. (See second cut.)

P. C.

HANDBUCH DER MENSCHLICH-NATÜRLICHEN SITTENLEHRE FÜR ELTERN UND ERZIEHER. By A. Döring. Stuttgart: Fr. Frommanns Verlag. 1899. Pages, 415. Price, 5 M.

The German society for ethical culture proposed a prize competition for a satisfactory ethical text-book for parents and educators, but the prize was not awarded. Hence the author believes that the demand is not yet satisfied and offers his book as an attempt to compile the main results of morality on a scientific basis in a popular form. He claims that the ethical (*das Sittliche*) is something which does not change with the change of time but remains essentially the same. Its highest doctrine is never to harm a sentient being without necessity and without an imperative reason, but on the contrary to further as much as possible the welfare of every sentient being" (p. 33). The author's position is characterised by excluding God and man's own self from the domain of an ethical motivation; for although God is regarded in the Bible as a sentient being, we cannot according to a modern conception of the Deity believe that we can do him any harm. This, however, does not exclude the fact that those who believe in God can subjectively become guilty of immorality in their conduct toward him.

As to ourselves, Döring thinks we have no direct, but only indirect duties viz., in so far as our personality affects the destinies of other sentient beings. Upon this basis the author discusses the virtues: justice in its various relations, duty (*Berufstreue*), goodness (*Güte*) as shown in taking care of others (*Fürsorge*), and discretion (*Weisheit*). The sexual problem and temperance are treated under this last head. He then ventilates a number of ethical problems such as sympathy and love, adaptation to society, conscience, original sin, stirpiculture; a special part is devoted to the realisation of morality, and the book ends with the author's specialised advice as to the way children should be educated before they attain the maturity in which they can receive the instruction of ethical culture.

The book contains nothing that could be called startling or new, except in

omitting the powerful impulses of religious enthusiasm. Even the societies for ethical culture will hesitate to introduce or recommend it, for it seems only to reveal the unsatisfactory character of ethics based simply on sentimentality and separated as a matter of principle from religion and philosophy. P. C.

SOZIALPÄDAGOGIK. Theorie der Willenserziehung auf der Grundlage der Gemeinschaft. Von Paul Natorp. Stuttgart: Fr. Frommanns Verlag (E. Hauff). 1899.

Paul Natorp, Professor of Philosophy in the University of Marburg and Editor of the *Archiv für systematische Philosophie*, published some time ago a series of articles on the theory of character formation, which are here reproduced in book form, not, however, without a careful revision, the result of which is that many parts have been recast, and the whole has been systematised and rearranged. Natorp is not only a thinker but an enthusiastic reformer. He comprehends the social unrest of the time, and loves to view ethics from a sociological aspect. Without being himself a socialist, he endeavors to discover the duties of the individual toward the whole, and thus he regards the formation of character as a social pedagogics consisting in an extension of the sphere of self and serving as a basis for the common interests of society (pp. 68 ff.). The main ideals of his ethics as a sociological philosophy are based upon Platonism. The virtue of reason is truthfulness; of the will, energy; of the senses and instincts, purity or continence; of social relations, justice (Part II., p. 83-192). The third part of this book sets forth Natorp's method of education of the will in the house, in the family, and in life, through communion with others. History must be so taught as to impart conviction, and ethics should become an independent branch of instruction. Religion is the domain of sentiment, and far from disregarding it, Natorp proposes to cultivate and purify it.

P. C.

CORRIGENDA (*The Monist*, Vol. IX. No 1).

Page 44, line 12, from the top, insert comma (,) after *mooted*.

Page 44, line 13, delete comma (,) after 1896.

Page 50, line 4 from above, place a dot over the 1.

Page 54, line 17 from the bottom, for 3 write 2.

Page 54, line 9 from the bottom, substitute \leq for \geq .

Page 55, line 4 from the top, cancel the x next to the last.

Page 56, line 7 from the top, instead of *notions* read *notion*.

Page 57, line 16 from the top, insert *of* after *expression*.

Page 58, line 16 from the top, insert semicolon (;) after *m*.

Page 62, line 15 from the end, behind 1) replace the comma by a colon (:)

E. SCHROEDER.